MG

DOCUMENT 366-83

AD A132487

EDWARDS AFB, CALIFORNIA

RANGE REFERENCE ATMOSPHERE
0-70 KM ALTITUDE

AUGUST 1983

RCC

METEOROLOGY GROUP
RANGE COMMANDERS COUNCIL

WHITE SANDS MISSILE RANGE
KWAJALEIN MISSILE RANGE
YUMA PROVING GROUND

PACIFIC MISSILE TEST CENTER
NAVAL WEAPONS CENTER
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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER Document 366-83	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Range Reference Atmosphere 0-70 Km Altitude, Edwards AFB, California		5. TYPE OF REPORT & PERIOD COVERED 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Meteorology Group Range Commanders Council White Sands Missile Range, NM 88002		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Same as Block 7.		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Range Commanders Council ATTN: STEWS-SA-R White Sands Missile Range, NM 88002		12. REPORT DATE August 1983 13. NUMBER OF PAGES 216
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) Same as Block 11.		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for Public Release; Distribution Unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

Supersedes Document 104-63, "Edwards AFB, California, Part 1", AD782651.

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Range reference atmosphere, data quality control, coordinate system, computation of statistical parameters, statistical models, orthogonal axes, thermodynamic quantities, data samples, altitude levels, derived monthly mean annual mean model atmospheres.

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

FOREWARD - see attached.

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UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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EDWARDS AFB, CALIFORNA

RANGE REFERENCE ATMOSPHERE
0-70 KM ALTITUDE

August 1983

Prepared by

Range Reference Atmosphere Committee
Meteorology Group
Range Commanders Council

Published by

Secretariat
Range Commanders Council
White Sands Missile Range, New Mexico 88002

APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED

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LIST OF ORGANIZATION ACRONYMS

AD	Armament Division
AFFTC	Air Force Flight Test Center
AFSC	Air Force Systems Command
AFSC/AFGL	AFSC/Air Force Geophysics Laboratory
AFSC/SD	AFSC/Space Division
AFSCF	Air Force Satellite Control Facility
AFTFWC	Air Force Tactical Fighter Weapons Center
AWS	Air Weather Service
BMD	Ballistic Missile Division
DOD	Department of Defense
DOE	Department of Energy
DOE/NTS	DOE/Nevada Test Site
DPG	Dugway Proving Ground
ESMC	Eastern Space and Missile Center
ETR	Eastern Test Range
KMR	Kwajalein Missile Range
NASA	National Aeronautics and Space Administration
NASA/MSFC	NASA/Marshall Space Flight Center
NASA/WFC	NASA/Wallops Flight Center
NOAA	National Oceanic and Atmospheric Administration
NWC	Naval Weapons Center
PMTC	Pacific Missile Test Center
USA/DTC	U.S. Army/Deseret Test Center
USAECOM	U.S. Army Electronics Command
USAFETAC	United States Air Force Environmental Technical Applications Center

UTTR	Utah Test and Training Range
WSMC	Western Space and Missile Center
WSMR	White Sands Missile Range
WTR	Western Test Range
YPG	Yuma Proving Ground
6585TG	6585th Test Group
TSCF	Targeting Systems Characterization Facility

FOREWORD

Atmospheric parameters are essential to the research and development of missiles and aerospace vehicles. In the early 1960's, the need was recognized for realistic atmospheric models derived in a consistent manner for each of the several major test ranges. An atmospheric model derived from statistical data for a particular geographical location is referred to as a reference atmosphere.

The first Range Reference Atmosphere (RRA) was issued in 1963 by the Inter-Range Instrumentation Group (IRIG) for Cape Kennedy, Florida, and was followed by additional publications for several ranges up to 1974. Since that time, improved upper air data bases have become available from which to develop the RRA. These resulted from the extended period of records and from improvement in the upper air measuring program by rocketsondes for altitudes above the rawinsonde ceiling of 30 km. Revised and improved RRAs are justified for the following reasons:

1) Needs for more definitive statistical atmospheric models have arisen because of changes and advances in aerospace technology. The Space Transportation System (Space Shuttle) is one example.

2) Most ranges now have an extended and improved upper air data base from which to develop a more definitive RRA.

3) There are requirements for RRAs for new ranges and range sites.

4) There have been scientific advances in understanding the upper atmospheric structure and physical relationships.

5) Advances in statistical modeling techniques have been made because of the general availability of high-speed electronic computers. These have led to the adoption of advanced concepts in atmospheric modeling.

For these reasons, the Range Reference Atmosphere Committee (RRAC) was tasked by the Range Commanders Council Meteorology Group (RCC MG) to establish new and improved RRAs. The purpose, scope, and objectives of this task are outlined in the following paragraphs.

Purpose: This committee, Task MG-1, establishes RRAs for the several ranges as provided by the RCC. An RRA is a model of the Earth's atmosphere over a geographical location of interest, for use by DOD and other U.S. Government range users. The RRA is used to provide planning data for evaluating environmental constraints for the particular configurations of environment-sensitive systems and components being developed or undergoing tests.

Scope: Using the best available upper atmosphere data base to include rawinsonde, rocketsonde and possibly other high-altitude data sources for the range location, the task is to establish a model of certain statistics for wind and thermodynamic quantities derived in a uniform manner and published in a standardized format.

Objectives: The wind statistics shall be, insofar as practical, modeled to be consistent with rigorous mathematical probability properties of the multivariate normal probability theory. The thermodynamic quantities statistics shall be, insofar as practical, modeled to be consistent with the hydrostatic equation, the equation of state, and the probability principles that are related through these physical equations. The document shall serve as an authoritative source of information and as an atmospheric model for a particular range. The first in the series of revised RRAs to be published is for Kwajalein Missile Range (KMR) (publication date December 1982). The altitude range required for KMR is 0 to 70 km. The order of priority for the subsequent publications is:

	Range	Altitude Range Required
1.	AFFTC/Edwards AFB, CA	0 - 70 km[a]
2.	ESMC/Cape Canaveral AFS, FL	0 - 70 km
3.	WSMC/Vandenberg AFB, CA	0 - 70 km[a]
4.	WSMR/White Sands, NM	0 - 70 km
5.	PMTC/Point Mugu, CA	0 - 70 km
6.	UTTR/Dugway (Michael AAF), UT	0 - 30 km[b]
7.	AD/Eglin AFB, FL	0 - 30 km
8.	ESMC/Ascension Island	0 - 70 km (Terminates at 66 km because of insufficient data)
9.	NASA/Wallops Flight Center, VA	0 - 70 km
10.	Taquac (Guam)	0 - 30 km
11.	PMTC/Barking Sands, HI	0 - 70 km

In keeping with the RCC's objective of standardization, the modeling techniques, basic text, and tabulation format are to be the same for all RRAs. These new and revised RRAs present not only the mean values of the thermodynamic quantities (pressure, temperature, virtual temperature, and density), but also include statistical measures for the dispersion (i.e., standard deviations and skewness coefficients). New quantities presented are water vapor pressure and dewpoint temperature. The statistical modeling for the wind is entirely new. The new approach uses the properties of the bivariate normal probability distribution function.

a. Use rocketsonde data from PMTC/Point Mugu for altitudes above 30 km.
b. Consider augmenting data base from Ely or Salt Lake City.

All final computations were performed by the United States Air Force Environmental Technical Applications Center (USAFETAC) in response to a task from Eastern Space and Missile Center (ESMC).

The text was prepared jointly by USAFETAC and the NASA/George C. Marshall Space Flight Center's Space Sciences Laboratory, Atmospheric Sciences Division. The editing and preparation of the draft manuscript were performed by the NASA/MSFC organization.

The cochairmen express their gratitude to all RRAC members and their respective colleagues who have made significant technical contributions to the establishment of these RRAs.

Special thanks are tendered to Lt. B. Novograd for his dilligence in forming the many computations and the development of the primary tables, I through IV. Special thanks goes to Lt. F. Wirsing for editing and formulating the equations for the derivable thermodynamic equations. These gentlemen performed this outstanding work under the direction of Major B. Lilius, USAFETAC.

Grateful acknowledgment goes to Mrs. Annette Tingle, NASA/MSFC, for editing the draft manuscript.

The RRAC consists of representatives from the U.S. Air Force, U.S. Army, National Aeronautics and Space Administration, U.S. Navy, and National Oceanic and Atmospheric Administration. The committee members for the RRA for the first publication are:

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CHAPTER I. INTRODUCTION

A. Definition and Purpose of the Range Reference Atmosphere

A.1 Definition

A reference atmosphere is a statistical model of the Earth's atmosphere derived from upper air measurements over a particular geographical location. Hence, these Range Reference Atmospheres (RRAs) are atmospheric models developed by the Range Reference Atmosphere Committee (RRAC) in response to a task by the Range Commanders Council Meteorology Group (RCC MG) and published by the RCC Secretariat. The RCC MG, formerly called the Inter-Range Instrumentation Group/Meteorology Working Group (IRIG/MWG), published a series of RRAs during the period 1963 through 1974.

A.2 Purpose

A series of revised and expanded RRAs are to be published for locations of interest to the RCC. These publications are to serve as authoritative reference sources on certain upper air statistics and as atmospheric models for particular range sites. The technical usefulness of these documents for the ranges, range users, U.S. aerospace industries, and the scientific community is recognized because of the standardization of the development techniques and the presentation of the tabulations.

B. Scope of the Range Reference Atmosphere and Arrangement of Tables

B.1 Scope

The RRA contains tabulations for monthly and annual means, standard deviations, and skewness coefficients for windspeed, pressure, temperature, density, water vapor pressure, virtual temperature, and dewpoint temperature; the means and standard deviations for the zonal (U) and meridional (V) wind components; and the linear (product moment) correlation coefficient between the wind components. These statistical parameters are tabulated at the station elevation, at 1-km intervals from sea level to 30 km, and at 2-km intervals from 30 to 90 km. The wind statistics are given at approximately 10 m above the station elevations and at altitudes with respect to mean sea level thereafter. For those range sites without rocketsonde measurements, the RRAs terminate at 30 km altitude, or they are extended, if required, when rocketsonde data from a nearby launch site are available. There are four sets of tables for each of the 12 monthly reference periods and the annual reference period.

B.2 Arrangement of Tables

The statistical parameters for the RRA models are presented in four tables, as outlined in the following paragraphs.

Table I contains all the wind statistical parameters. This table gives the monthly and annual means and standard deviations of the U and V wind components and the linear (product moment) correlation coefficient between these

two components; the mean, standard deviation and skewness coefficient of the windspeed; and the number of wind observations (sample size).

Table II contains the monthly and annual means, standard deviations, and skewness values of pressure, temperature, and density, and the number of observations used fo each of these thermodynamic quantities.

Table III contains the monthly and annual means, standard deviations and skewness values of the water vapor pressure, virtual temperature and dewpoint, and the number of observations for each of these moisture-related quantities. The statistical parameters for water vapor pressure and dewpoint terminate at 15 km altitude. Above 15 km the statistical parameters for virtual temperature are considered to be the same as those for temperature.

Table IV contains the monthly and annual mean atmospheric models for the thermodynamic variables: pressure, virtual temperature, and density. This table is derived from the monthly and annual mean virtual temperature versus altitude (geometric) using the hydrostatic equation and the equation of state. Also presented is the geopotential height corresponding to the tabulated geometric altitudes.

The physical unit for all wind parameters is meters per second. The physical unit for pressure is millibars; for temperature and virtual temperature, degrees Kelvin; for density, grams per cubic meter; and for water vapor pressure, millibars. In all cases the skewness coefficient and the correlation coefficient between wind components are unitless. All reference to altitude is geometric altitude and is expressed in kilometers. All reference to height is geopotential height and has the unit geopotential meters or kilometers. All geometric altitudes and geopotential heights are with respect to mean sea level.

C. Data Quality Control Procedures

A small portion (less than 10 percent) of the soundings in the data base used to calculate the RRA tables contained erroneous data values. The soundings which contained these erroneous values were eliminated from the data base using the following procedures:

1) Soundings containing gaps in their height data greater than 200 mb were rejected. This step was taken because some soundings only contained height values at their "mandatory" pressure levels, which were occasionally missing, resulting in soundings with no height information at all.

2) An initial set of RRA statistics was computed using all the remaining soundings. This initial set of statistics was used to determine data limits for the temperature, pressure, U and V components of the wind, and the dewpoint (for the 0- to 30-km portion of the RRA) or the density (for the 30- to 90-km portion of the RRA). The lower (upper) data limits were set at the mean value for a specific parameter, minus (plus) six standard deviations of that quantity. One pair of data limits was computed for each of these parameters: month of the year and data level.

3) This initial set of data limits was then used to screen the data base. All the soundings that contained values outside these data limits were rejected. A new RRA was then computed using the screened data base. This second RRA was used to generate a second set of data limits.

4) The second set of data limits was then used to screen the data base further. A new RRA was again generated. The skewness values in this RRA were then evaluated, according to empirical criteria specified in section II.A.3 of this document for the winds, and according to criteria in section III.A.3 for the thermodynamic quantities. If these criteria were satisfied, the new RRA was then used to generate a final set of data limits, which were used to control the quality of the data base for the final version of the RRA.

5) Occasionally, the third RRA that was generated did not satisfy all of the skewness criteria. This indicated that some incorrect values were still present in the data base. To complete quality control, steps 3 and 4 were repeated for additional iterations (usually one or two) until the resulting RRA satisfied the skewness criteria. At that point, a final set of data limits was generated. This final set of data limits was then used to control the quality of the data base and generate the final RRA.

D. Organization of the Chapters

Because there are plans to publish a series of RRAs, comments on the special organization of the document are in order. The RRA document is arranged in four chapters. Chapter I is the introduction. Chapter II, Wind Statistics and Models, contains the techniques used to arrive at the wind statistical parameters, table I, and the probability functions that are to be used as wind models to derive several wind statistics. Chapter III, Statistics of Thermodynamic Quantities and Models, contains the techniques used to arrive at the thermodynamic and moisture-related statistical parameters given in tables II and III and the atmospheric thermodynamic model presented in table IV. This chapter also contains sets of equations to calculate several atmospheric properties. Chapter IV contains the general conclusions and recommendations. These four chapters are reprinted without change for each documented RRA to assure consistency and for expediency in preparing the documentation. To account for variations particular to a specific RRA, two appendixes have been included. Appendix A, Examples of Wind Statistics, is designed to give a few illustrative examples of wind statistics for the specific RRA and cursory observations, comparisons, or comments on wind statistics. Appendix B, Range Specific Information, is designed to present specific information particular to the range, such as geographical location, data base, etc., and any cursory observations or comments on the thermodynamic quantities.

Read these appendixes! They are located as the last two units in the document because they may vary in length depending on the circumstances. Appendixes A and B and tables I, II, III, and IV are the only differences among the RRA documents published in this new RRA series.

CHAPTER II. WIND STATISTICS AND MODELS

A. General Considerations

A.1. Objectives

An objective of the RRA is to furnish minimum tabulation for the wind statistics. To meet this objective, the bivariate normal probability distribution was adopted as a statistical model for the wind treated as a vector quantity at the RRA data levels. Only five statistical parameters are required to completely describe this probability function. In Cartesian coordinates these parameters are the means and standard deviations of the two orthogonal components and the correlation coefficient between the two components. These five statistical parameters for the U and V (meteorological coordinates) components are given in table I. The statistical properties of the bivariate normal probability distribution are used to derive many wind statistics that are of interest to the ranges and range users. This procedure produces consistent wind statistics that are connected through rigorous mathematical probability functions. By using these functions, extensive tabulations of wind statistics are avoided.

The statistical properties of the bivariate normal probability distribution presented for the vector wind statistical model are:

1) The wind components are univariate normally distributed.

2) The conditional distribution of one component given a value of the other component is univariate normally distributed.

3) The windspeed is of the form of a generalized Rayleigh distribution.

4) The frequency distribution of wind direction can be derived.

5) The conditional distribution of windspeed given a value of wind direction (wind rose) can be derived.

6) The five tabulated wind statistical parameters with respect to the meteorological U and V coordinate system can be derived for any arbitrary rotation of the orthogonal axes.

The probability distribution functions and sets of equations to derive wind statistics for the previously stated properties of the vector wind model are presented in this chapter. Symbols used are summarized in table A. Illustrative examples are presented in appendix A. No attempt is made to give the derivation of the probability functions. The reader is referred to Smith (1976) for some derivations and several applications of the probability distribution properties for wind statistics.

A.2. Data Quality Control

The U and V components of the wind were used to generate data limits set at plus and minus six standard deviations from the mean for each of the

TABLE A. LIST OF SYMBOLS USED IN CHAPTER II

N - The number of wind measurements in table I

r - A general variable for the bivariate normal probability distribution in polar coordinates

R - A generalized Rayleigh variable used for derived windspeed probability distribution

R (U, V) - The linear (product moment) correlation coefficient between the zonal and meridional wind components in table I

SK (W) - Skewness parameter for windspeed in table I

S (U) - The standard deviation of the zonal wind component in table I

S (V) - The standard deviation of the meridional wind component in table I

S (W) - The standard deviation of windspeed in table I

t - A standardized normal variate used in text table B

U - The zonal wind component

UBAR - The mean value of the zonal wind component in table I

V - The meridional wind component

VBAR - The mean value of the meridional wind component in table I

W - Windspeed or modulus of wind vector, a scalar quantity

WBAR - The mean value of windspeed in table I

X - A general component variable or coordinate axis

Y - A general component variable or coordinate axis

$\bar{X}$ - A general component mean value in the [x,y] coordinate system

$\bar{Y}$ - A general component mean value in the [x,y] coordinate system

α (alpha) - Rotation angle for the [x,y] coordinate system

TABLE A. (concluded)

θ (theta) - Wind direction in the polar coordinate system
$\lambda_{(\ )}$ (Lambda) - A parameter in the bivariate normal probability distribution in text table C
ξ (Xi) - The mean value in the standardized normal probability distribution used in text table B
π (Pi) - Constant = 3.14159 ...
ρ (Rho) - The general linear correlation coefficient between the two component variables in the [x,y] coordinate system
σ_x, σ_y - The general standard deviations of the x and y component variables in the [x,y] coordinate system.

quantities. These data limits were used to screen the wind data base, as described in section I.C. The data base was considered to be free from errors under the following conditions:

1) The skewness of the windspeed was below 4.0 at data levels where the mean windspeed was less than 15 m/s, and

2) The skewness of the windspeed was below 2.5 at data levels where the mean windspeed was greater than 15 m/s.

A.3 Limitations

For the wind statistics, the correlation coefficients for like wind components and unlike wind components between altitude levels were not computed. Therefore, wind statistics with respect to altitude (profile) cannot be derived from the RRA statistics. For wind profile modeling techniques the user is referred to Smith (1976). However, the wind statistics at discrete altitudes are valid; all of the probability distribution functions given in chapter II can be derived from the five wind component statistical parameters contained in table I, and the derived distributions can be considered as wind models at discrete altitudes.

By convention, in the statistical literature Greek letters are used for population or theoretically known parameters, and sample estimates are denoted by English alphabetical letters or with a "hat" (^) over the Greek letters. In chapter II Greek letters are used for the variances and the linear correlation coefficient, and the means are denoted by $\overline{X}$ and $\overline{Y}$ when dealing with the bivariate normal distribution. It will always be understood that table I contains sample estimates of the statistical parameters and they are with respect to the meteorological U and V coordinate system.

B. Coordinate System and Computation of Statistical Parameters

B.1. Coordinate System

Wind measurements are recorded in terms of magnitude and direction. The wind direction is measured in degrees clockwise from true north and is the direction from which the wind is blowing. The wind magnitude (the modulus of the vector) is the scalar quantity and is referred to as windspeed or scalar wind. A statistical description that accounts for the wind as a vector quantity is appropriate and requires a coordinate system.

For the RRA the standard meteorological coordinate system has been chosen for the wind statistics, all tables of statistical parameters, and related discussions because the coordinate system used in aerospace and related applied fields has not always been consistent.

Using figure 1, the polar and Cartesian forms for the meteorological coordinate system are defined:

W = windspeed, scalar wind, or magnitude of the wind vector in meters per second.

θ = wind direction. θ is measured in degrees clockwise from true north and is the direction from which the wind is blowing.

U = zonal wind component, positive west to east, in meters per second.

V = meridional wind component, positive south to north, in meters per second.

The components θ and W define the polar form, and the U-V components define the Cartesian forms:

$$U = -W \sin\theta \quad , \quad 0 \le \theta \le 360° \tag{1}$$

$$V = -W \cos\theta \quad . \tag{2}$$

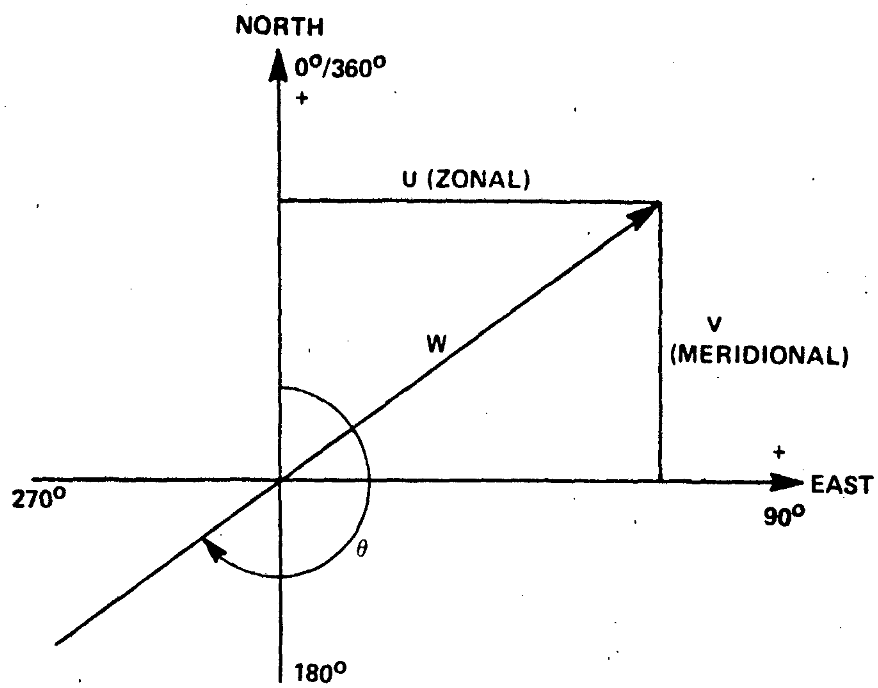

Figure 1. The meteorological coordinate system.

It is helpful to note the difference between the mathematical convention for a vector direction and the meteorological convention for wind direction:

$$\theta \text{ met} = 270 - \theta \text{ math} \tag{3}$$

when $0 \leq \theta$ math $\leq 270°$

$$\theta \text{ met} = 360 + (270 - \theta \text{ math})$$

when $270 \leq \theta$ math $\leq 360°$

B.2 Computation of Statistical Parameters

The wind statistical parameters in table I for the means and standard deviations of the U and V wind components and windspeed and the skewness parameter of windspeed were computed using the sums technique presented in chapter III.C.3. In addition, the linear (product moment) correlation coefficient between the U and V wind components, r (u,v) in table I, was computed. This correlation coefficient is defined as

$$r\ (u,v) = \frac{\sum_{i=1}^{n} (U_i - \bar{U})\ (V_i - \bar{V})}{N\ s(u) \cdot s(v)} \quad . \tag{4}$$

These statistical parameters are with respect to the Standard Meteorological Coordinate System.

C. Statistical Wind Models

C.1. Wind Component Statistics

The univariate normal (Gaussian) probability distribution function is used to obtain wind component statistics. In generalized notations, this probability density function (pdf) is

$$f\ (t) = \frac{e^{-\frac{t2}{2}}}{\sqrt{2\pi}} \quad , \tag{5}$$

where $t = X - \xi/\sigma_x$ is the standardized variate, with ξ defining the mean and σ_x the standard deviation. The probability distribution function (PDF) is

$$F(X) = \int_{-\infty}^{X} f(t)\ dt \quad . \tag{6}$$

Because this integral cannot be obtained in closed form, it is widely tabulated for zero mean and unit standard deviation. For a convenient reference for the RRA, selected values of F(X) are given in table B. To emphasize the connotation of probability, F(X) is shown in table B as $P\left\{X\right\}$.

The t values in table B are used as multiplier factors to the standard deviation to express the probability that a normally distributed variable, X, is less than or equal to a given value as

$$P\left\{X \leq \text{mean} + t\ \sigma_x\right\} = \text{probability, p} \quad . \qquad (7)$$

For example, when t = 1.6449, the probability that X is less than or equal to the mean plus 1.6449 standard deviations is 0.95. That value of X that is less than or equal to the mean plus 1.6449 standard deviations is called the 95th percentile value of X. Also given in table B are the numerical values to express the probability that X falls in the interval X_1 and X_2; i.e.,

$$P\left\{X_1 \leq X \leq X_2\right\} = \text{Interpercentile Range} \ , \qquad (8)$$

where

$$X_1 = \bar{X} - t\ \sigma_x$$
$$X_2 = \bar{X} + t\ \sigma_x \quad .$$

For t = 1.9602 the probability that X lies in the interval X_1 and X_2 is 0.95. The values of X_1 and X_2 in this example comprise the 95th interpercentile range.

For a normally distributed variable, the mode (most frequent value) and the median (50th percentile value) are the same as the mean value. The means and standard deviations of the U and V wind components from table 1 are used in equations (7) and (8) to compute the percentile values and interpercentile ranges of the U and V wind components. When equation (7) is illustrated on a normal probability graph, a straight line is formed.

C.2. The Vector Wind Model

Because wind is a vector quantity having direction and magnitude that can be expressed as two components in an orthogonal coordinate system, a probability model that describes the joint relationship is the bivariate normal probability distribution. In general component notation, the bivariate normal probability density function (BNpdf) is

TABLE B. VALUES OF t FOR STANDARDIZED NORMAL (UNIVARIATE) DISTRIBUTION FOR PERCENTILES AND INTERPERCENTILE RANGES

t	P(X)	X	$P\{X_1 \le X \le X_2\}$ (%)
-3.0000	0.00135	$\xi - 3.0000\,\sigma$	99.73 (0.27)
-2.5758	0.00500	$\xi - 2.5758\,\sigma$	99 (1.00)
-2.3263	0.01000	$\xi - 2.3263\,\sigma$	98 (2.00)
-2.2365	0.01266	$\xi - 2.2365\,\sigma$	97.468 (2.532)
-2.0000	0.02275	$\xi - 2.0000\,\sigma$	95.45 (4.55)
-1.9602	0.02500	$\xi - 1.9602\,\sigma$	95 (5)
-1.6449	0.05000	$\xi - 1.6449\,\sigma$	90 (10)
-1.2816	0.10000	$\xi - 1.2816\,\sigma$	80 (20)
-1.0000	0.15866	$\xi - 1.0000\,\sigma$	68.268 (31.732)
-0.8416	0.20000	$\xi - 0.8416\,\sigma$	60 (40)
-0.6745	0.25000	$\xi - 0.6745\,\sigma$	50 (50)
-0.2533	0.40000	$\xi - 0.2533\,\sigma$	20 (80)
0.0000	0.50000	ξ	
0.2533	0.60000	$\xi + 0.2533\,\sigma$	
0.6745	0.75000	$\xi + 0.6745\,\sigma$	
0.8416	0.80000	$\xi + 0.8614\,\sigma$	
1.0000	0.84134	$\xi + 1.0000\,\sigma$	
1.2816	0.90000	$\xi + 1.2816\,\sigma$	
1.6449	0.95000	$\xi + 1.6449\,\sigma$	
1.9602	0.97502	$\xi + 1.9602\,\sigma$	
2.0000	0.97725	$\xi + 2.0000\,\sigma$	
2.2365	0.98734	$\xi + 2.2365\,\sigma$	
2.3263	0.99000	$\xi + 2.3263\,\sigma$	
2.5758	0.99500	$\xi + 2.5758\,\sigma$	
3.0000	0.99865	$\xi \quad 3.0000\,\sigma$	

where $X_1 = \xi - t\sigma$
and $X_2 = \xi + t\sigma$

$$f(X,Y) = \frac{1}{2\pi\sigma_x\sigma_y\sqrt{1-\rho^2}}\left[\exp \frac{-1}{2(1-\rho^2)}\left\{\frac{(X-\bar{X})^2}{\sigma_x^2} - \frac{2\rho(X-\bar{X})(Y-\bar{Y})}{\sigma_x\sigma_y} + \frac{(Y-\bar{Y})^2}{\sigma_y^2}\right\}\right] \quad -\infty \leq X \leq \infty \text{ and}$$

$$-\infty \leq Y \leq \infty \; , \tag{9}$$

where the five parameters are $\bar{x},\bar{y}$, the component means; σ_x, σ_y, the component standard deviations; and ρ, the correlation coefficient between the two component variables, X and Y.

For many applications the interest is in determining the probability that a point $\{X,Y\}$ will fall within a contour of equal probability density. The exponential terms of equation (9), when set equal to a constant, λ^2, give a family of ellipses depending on the value of the constant. The ellipses have a common center at the point $\{\bar{X},\bar{Y}\}$. Integration of equation (9) over the region bounded by the contours of equal probability density gives

$$P(\lambda) = 1 - e^{\frac{-\lambda^2}{2(1-\rho^2)}} \; . \tag{10}$$

Solving for λ^2 and replacing $P(\lambda)$ by p gives

$$\lambda^2 = -2\,(1-\rho^2)\ln(1-p) \; . \tag{11}$$

Now define

$$\lambda_e = \sqrt{2}\sqrt{-\ln(1-p)} \; . \tag{12}$$

For ready reference and comparisons, λ_e is shown in table C for selected values of p.

TABLE C. VALUES OF λ FOR BIVARIATE NORMAL DISTRIBUTION ELLIPSES AND CIRCLES

P(%)	λ_e (ellipse)	λ_c (circle)	P(%)	λ_e (ellipse)	λ_c (circle)
0.000	0.0000	0.0000	65.000	1.4490	1.0246
5.000	0.3203	0.2265	68.268	1.5151	1.0713
10.000	0.4590	0.3246	70.000	1.5518	1.0973
15.000	0.5701	0.4031	75.000	1.6651	1.1774
20.000	0.6680	0.4723	80.000	1.7941	1.2686
25.000	0.7585	0.5363	85.000	1.9479	1.3774
30.000	0.8446	0.5972	86.466	2.0000	1.4142
35.000	0.9282	0.6563	90.000	2.1460	1.5175
39.347	1.0000	0.7071	95.000	2.4477	1.7308
40.000	1.0108	0.7147	95.450	2.4860	1.7579
45.000	1.0935	0.7732	98.000	2.7971	1.9778
50.000	1.1774	0.8325	98.168	2.8284	2.0000
54.406	1.2533	0.8862	98.889	3.0000	2.1213
55.000	4.2637	0.8936	99.000	3.0348	2.1460
60.000	1.3537	0.9572	99.730	3.4393	2.4320
63.212	1.4142	1.0000	99.9877	4.2426	3.0000

$\lambda_e \quad \sqrt{2}\,\sqrt{-\ln(1-P)}$

$\lambda_c \quad \sqrt{-\ln(1-P)}$

The probability ellipse that contains p-percent of the wind vectors expressed in the most general form is the conic defined by

$$AX^2 + BXY + CY^2 + DX + EY + F = 0 \quad , \tag{13}$$

where

$$A = \sigma_y^2$$

$$B = -2\rho\sigma_x\sigma_y$$

$$C = \sigma_x^2$$

$$D = 2\sigma_x\sigma_y\ \rho\bar{Y} - 2\sigma_y^2\bar{X} = -(B\bar{Y} + 2A\bar{X})$$

$$E = 2\sigma_x\sigma_y\ \rho\bar{X} - 2\sigma_x^2\bar{Y} = -(B\bar{X} + 2C\bar{Y})$$

$$F = A\bar{X}^2 + C\bar{Y}^2 + B\bar{X}\bar{Y} - AC\ (1 - \rho^2)\ \lambda_e^2 \quad ,$$

and

$$\lambda_e = \sqrt{2}\ \sqrt{-\ln\ (1 - \rho)} \quad .$$

For graphical presentations, the range of the variable is important in order to arrange the scale. The largest and smallest values of X and Y for a given probability ellipse, p, are given by

$$X_{L,S} = \bar{X} \pm \sigma_x\lambda_e \tag{14}$$

$$Y_{L,S} = \bar{Y} \pm \sigma_y\lambda_e \quad , \tag{15}$$

where, as before, $\lambda_e = \sqrt{2}\ \sqrt{-\ln(1 - p)}$.

Although there are several approaches to graphing the probability ellipses, the following procedure is advantageous for electronic computer plotting. In establishing the computer plotting program, the sample estimates for $\bar{X}, \bar{Y}$, σ_x, σ_y, and ρ are constants in equation (13). The user makes the choice of probability ellipses desired. Thus, p in equation (12) is programmed as a parameter. The largest and smallest values for X and Y are computed by equations (14) and (15) for the largest probability ellipse selected. This sets the graphical scale. Values of X within the range of "X smallest" to "X largest" are obtained by incrementing X between these limits. Using the quadratic equation, a solution for Y of equation (13) is made and plotted for each value of X. The centroid $(\bar{X},\bar{Y})$ for the family of probability ellipses is plotted as a point. Labeling and other identification complete the plotting program.

For a given probability, equation (13) defines an ellipse that contains p-percent of the points X,Y. Since the entire area under the bivariate normal density function [equation (9)] is unity, upon integration for a given probability ellipse, that given ellipse contains p-percent of the total area. In the wind statistics, p-percent of the wind vectors fall within the specified probability ellipse. From this point of view, a specified probability ellipse gives the joint probability that p-percent of the U-V components lie within the given ellipse.

When $\sigma_x^2 = \sigma_y^2 = \sigma^2$ and $\rho = 0$ in the bivariate normal distribution, the probability ellipses of equation (13) reduce to circles whose centers are at the means $\bar{X},\bar{Y}$. The radii of the probability circles are $\sigma_{V1}\lambda_c$, where

$$\sigma_{V1} = \sqrt{2\sigma^2} \tag{16}$$

and

$$\lambda_c = \sqrt{-\ln(1 - p)} \tag{17}$$

Values for λ_c for selected probabilities, p, are given in table C.

Because this function is simple, it can easily be graphed manually. However, the generalized plotting technique for electronic computer plotters, as represented by equation (13), can be advantageously used.

C.3. Derived Distributions for Wind Statistics

In this subsection the probability distribution functions and sets of equations are presented to derive certain probability distribution functions for wind statistics. These derived probability distributions are:

1) The conditional distribution of wind components

2) The generalized Rayleigh distribution for windspeed

3) The distribution for wind direction

4) The conditional distribution of windspeed given a wind direction (wind rose).

The required five statistical parameters for these derived distributions for wind statistics are given in table I.

C.3.1 The Conditional Distribution of Wind Components

Given that two random variables X and Y are bivariate normally distributed, the conditional distribution $f(Y|X)$ is read as $f(Y)$ given X, and likewise $f(X|Y)$ is read as $f(X)$ given Y. The conditional probability distribution function $F(Y|X)$ has the mean $E(Y|X)$ and variance $\sigma^2_{(x|y)}$, where

$$E(Y|X^*) = \overline{Y} + \rho\left(\frac{\sigma_y}{\sigma_x}\right)(X^* - \overline{X}) \tag{18}$$

and

$$\sigma^2_{(y|x^*)} = \sigma_y^{\,2}\,(1 - \rho^2) \quad . \tag{19}$$

The conditional standard deviation is

$$\sigma_{(y|x^*)} = \sigma_y\sqrt{1 - \rho^2} \quad . \tag{20}$$

By interchanging the variables and parameters, the conditional distribution function for $F(X|Y^*)$ has the conditional mean

$$E(X|Y^*) = \bar{X} + \rho\left(\frac{\sigma_x}{\sigma_y}\right)(Y^* - \bar{Y}) \quad , \tag{21}$$

conditional variance

$$\sigma^2_{(x|y^*)} = \sigma_x^{\ 2}\,(1 - \rho^2) \quad , \tag{22}$$

and conditional standard deviation

$$\sigma_{(x|y^*)} = \sigma_x \sqrt{1 - \rho^2} \quad . \tag{23}$$

The preceding conditional probability distribution functions are univariate normal distributions for a (fixed) given value for one of the bivariate normal variables. Thus, the t-values given in table B are applicable for conditional probability statements. For example,

$$F(Y|X^*) = E(Y|X^*) + t\sigma_{(y|x^*)} \quad . \tag{24}$$

For t = 1.6449 there is a 95 percent chance that Y is less than or equal to $\bar{Y} + 1.6449\ \sigma_{(y|x^*)}$ given that X = X*. In symbols this statement reads

$$P\left\{ Y \leq E(Y|X^*) + 1.6449\ \sigma_{(y|x^*)}\ |X = X^* \right\} = 0.9500 \quad . \tag{25}$$

Interval probability statements can also be made; namely,

$$P\left\{ Y_1 = E(Y|X^*) - t\sigma_{(y|x^*)} \leq Y \leq Y_2 = E(Y|X^*) + t\sigma_y\ |X = X^* \right\}$$

where X* can take on any fixed value of X, but a convenient arrangement is to let $X^* = \bar{X} \pm t\sigma_x$.

The close connection of the regression function of Y on X to the conditional mean for the bivariate normal distribution is noted; namely,

$$Y = \bar{Y} + \rho\left(\frac{\sigma_y}{\sigma_x}\right)(X - \bar{X}) \quad . \tag{26}$$

Similarly, the regression function of X on Y is

$$X = \bar{X} + \rho\left(\frac{\sigma_y}{\sigma_x}\right)(Y - \bar{Y}) \quad . \tag{27}$$

These are linear functions and express the same results as would be obtained from a least-squares regression line.

C.3.2. The Generalized Rayleigh Distribution for Windspeed

If two random variables, X and Y, are bivariate normally distributed, then the probability distribution for the modulus, R, can be derived in terms of the five parameters that define the bivariate normal distribution.

$$R = \sqrt{X^2 + Y^2} \tag{28}$$

The distribution of R so derived is called a generalized Rayleigh distribution because there are no restrictions on the parameters. For applications to the RRA, the variable R is recognized as windspeed or the modulus of the wind vector.

The probability density function for R is expressed as

$$f(R) = a_0 R e^{-a_1 R^2} \Bigg[I_0(a_2 R^2)\, I_0(a_3 R) + 2 \sum_{k=1}^{\infty} I_k(a_2 R^2)\, I_{2k}(a_3 R) \cos 2k\psi \Bigg] \quad R \geq 0 \quad . \tag{29}$$

The functions $I_0(\cdot)$, $I_k(\cdot)$, and $I_{2k}(\cdot)$ are the modified Bessel functions of the first kind for zero order, kth order, and 2kth order. The coefficients are

$$a_0 = \exp\left[-\frac{1}{2}\left\{\frac{X^2}{\sigma_a^2} + \frac{Y^2}{\sigma_b^2}\right\}\right] \Big/ \sigma_a\sigma_b \quad ,$$

where σ_a^2 and σ_b^2 are the rotated variances to produce zero correlation between X and Y. σ_a and σ_b are the positive and negative roots[1] of the expression

$$\sigma^2_{(+,-)} = \frac{1}{2}\left\{\sigma_x^2 + \sigma_y^2 \pm \left[(\sigma_x^2 + \sigma_y^2)^2 - 4\sigma_x^2\sigma_y^2(1 - \rho^2)\right]^{1/2}\right\} \quad ,$$

$$a_1 = (\sigma_x^2 + \sigma_y^2)/4(1 - \rho^2)\ \sigma_x^2\sigma_y^2 \quad ,$$

$$a_2 = \frac{\left[(\sigma_x^2 - \sigma_y^2)^2 + 4\rho^2\sigma_x^2\sigma_y^2\right]^{1/2}}{4(1 - \rho^2)\ \sigma_x^2\sigma_y^2} \quad ,$$

$$a_3 = \left[\left(\frac{\bar{X}}{\sigma_a^2}\right)^2 + \left(\frac{\bar{Y}}{\sigma_b^2}\right)^2\right]^{1/2} \quad ,$$

1. *This computational form is obtained from the determinant*

$$\begin{vmatrix} \sigma_x^2 - K & \sigma_x\sigma_y\rho \\ \sigma_x\sigma_y\rho & \sigma_y^2 - K \end{vmatrix} ,$$

where K is $\sigma^2_{(+,-)}$, *and* σ_a *and* σ_b *are analogous to the standard deviation of the major and minor axes of the bivariate normal probability ellipse.*

and

$$\tan \psi = \frac{\bar{Y}}{\bar{X}} \frac{\sigma_a^2}{\sigma_b^2} \quad .$$

Since this density function cannot be integrated in closed form from zero to R, numerical integration is used to obtain practical results for the probability distribution function; i.e.,

$$F(R) = \int_0^{R*} f(R)\, dR \quad . \qquad (30)$$

A number of special cases can be obtained from the general Rayleigh distribution [equation (29)], the simplest of which is to let $\sigma_x \equiv \sigma_y = \sigma$ and $\bar{X} = \bar{Y} = 0$ with independent variables X and Y. This gives

$$f(R) = \frac{R}{\sigma^2} e^{-R^2/2\sigma^2} \quad , \qquad (31)$$

which is recognized as the classical Rayleigh probability density function. The density function, equation (31), can be integrated in closed form over any range of the variable R. Hence, the probability distribution function, F(R), for equation (31) is

$$F(R) = 1 - \exp\left\{\frac{-R^2}{2\sigma^2}\right\} \quad . \qquad (32)$$

C.3.3. The Derived Distribution of Wind Direction

Considering the wind as a vector quantity and bivariate normally distributed, the wind direction can be derived. This is done by first writing the bivariate normal probability density function in polar coordinates whose variables are

$$g(r,\theta) = r d_1 e^{-\frac{1}{2}(a^2r^2 - 2br + c^2)} \tag{33}$$

(see footnote 2)

where

$$a^2 = \frac{1}{(1-\rho^2)}\left[\frac{\sin^2\theta}{\sigma_x^2} - \frac{2\rho\cos\theta\sin\theta}{\sigma_x\sigma_y} + \frac{\cos^2\theta}{\sigma_y^2}\right],$$

$$b = \frac{-1}{(1-\rho^2)}\left[\frac{\bar{x}\sin\theta}{\sigma_x^2} - \frac{\rho(\bar{x}\cos\theta + \bar{y}\sin\theta)}{\sigma_x\sigma_y} + \frac{\bar{y}\cos\theta}{\sigma_y^2}\right],$$

$$c^2 = \frac{1}{(1-\rho^2)}\left[\frac{\bar{x}^2}{\sigma_x^2} - \frac{2\rho\bar{x}\bar{y}}{\sigma_x\sigma_y} + \frac{\bar{y}^2}{\sigma_y^2}\right],$$

$$d_1 = \frac{1}{2\pi\sigma_x\sigma_y\sqrt{1-\rho^2}},$$

$r = \sqrt{x^2 + y^2}$ is the modulus of the vector or speed, and θ is the direction of the vector. After integrating $g(r,\theta)$ over $r = 0$ to ∞, the probability density function of θ is

$$g(\theta) = \frac{d_1}{a^2}\, e^{-\frac{1}{2}c^2}\left[1 + \sqrt{2\pi}\left(\frac{b}{a}\right) e^{\frac{1}{2}\left(\frac{b}{a}\right)^2}\, \Phi\left(\frac{b}{a}\right)\right], \tag{34}$$

2. *This expression, equation (33), in Smith 1976) is given with respect to the mathematical convention for a vector direction.*

where a^2, b, c^2, and d_1 are as previously defined in equation (33) and

$$\Phi\left(\frac{b}{a}\right) = \Phi\ (x) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{x} e^{-\frac{1}{2}t^2}\ dt$$

is taken from tables of normal distribution functions or made available through a computer subroutine.

If desired, equation (34) can be integrated numerically over a chosen range of θ to obtain the probability that the vector direction will lie within the chosen range; i.e.,

$$F(\theta) = \int_{\theta_2}^{\theta_1} g(\theta)\ d\theta \quad . \tag{35}$$

One application may be to obtain the probability that the wind will flow from a given quadrant or sector as, for example, onshore.

C.3.4. The Derived Conditional Distribution of Windspeed Given the Wind Direction (Wind Rose)

Continuing with the considerations in section C.3.3. of this chapter, the conditional probability density function (pdf) for windspeed, r, given a specified value for the wind direction, θ, can be expressed as

$$f(r|\theta) = \frac{a^2\, r\, e^{-\frac{1}{2}(a^2 r^2 - br)}}{1 + \sqrt{2\pi}\left(\frac{b}{a}\right) e^{\frac{1}{2}\left(\frac{b}{a}\right)^2} \Phi\left\{\frac{b}{a}\right\}} \quad , \tag{36}$$

where the coefficients, a and b and the function $\Phi\left\{\frac{b}{a}\right\}$ are as previously defined in equation (33) and in equation (34).

From equation (36) the mode (most frequent value) of the conditional windspeed given a specified value of the wind direction is the positive solution of the quadratic equation,

$$a^2 r^2 - br - 1 = 0 \quad , \tag{37}$$

which is

$$(\tilde{r}|\theta) = \frac{1}{2a}\left[\left(\frac{b}{a}\right) + \sqrt{4 + \left(\frac{b}{a}\right)^2}\right] \quad . \tag{38}$$

The locus of the conditional modal values of windspeed when plotted in polar form versus the given wind directions forms an ellipse.

The noncentral moment for equation (36) is expressed as

$$\mu_n' = \int_0^\infty r^n \, f(r|\theta)\, dr \quad . \tag{39}$$

Now the first noncentral moment is identical to the first central moment or the expected value, E $(r|\theta)$. The integration of equation (39) for the first moment is sufficiently simple to yield practical computations and can be expressed as

$$E(r|\theta) = \frac{\left(\frac{b}{a}\right) + \left[1 + \left(\frac{b}{a}\right)^2\right]\sqrt{2\pi}\; e^{\frac{1}{2}\left(\frac{b}{a}\right)^2}\;\Phi\left\{\frac{b}{a}\right\}}{a\left[1 + \left(\frac{b}{a}\right)\sqrt{2\pi}\; e^{\frac{1}{2}\left(\frac{b}{a}\right)^2}\;\Phi\left\{\frac{b}{a}\right\}\right]} \quad . \tag{40}$$

Hence, equation (40) gives the conditional mean value of the windspeed given a specified value for the wind direction.

The integration of equation (36) for the limits r = 0 to r = r* gives the probability that the conditional windspeed is $\leq$ r* given a value for the wind direction, θ. This conditional probability distribution (PDF) can be written as

$$Pr\left\{r \leq r^* \mid \theta = \theta_o\right\} = 1 - \left[\frac{e^{-\frac{1}{2}r_s^2} + \sqrt{2\pi}\left(\frac{b}{a}\right)\left\{1 - \Phi\ (r_s)\right\}}{e^{-\frac{1}{2}\left(\frac{b}{a}\right)^2} + \sqrt{2\pi}\left(\frac{b}{a}\right)\Phi\left\{\frac{b}{a}\right\}}\right] , \tag{41}$$

where $r_s = \left[a\ r^* - \left(\frac{b}{a}\right)\right]$.

By definition, equation (41) is an expression for a "wind rose." Empirical wind rose statistics are often tabulated or graphically illustrated giving the frequency that the windspeed is not exceeded for those windspeed values that lie within assigned class intervals of the wind direction. After evaluation of equation (41) for various values of windspeed, r^*, and the given wind directions, θ, interpolations can be performed to obtain various percentile values of the conditional windspeed.

For the special case when b in equation (33) equals zero (i.e., for $\bar{x} \equiv \bar{y} = 0$), the conditional modal values of windspeeds [equation (38)], the conditional mean values of windspeeds [equation (40)], and the fixed conditional percentile values of windspeeds [interpolated from evaluations of equation (41)], when plotted in polar form versus the given wind directions, produce a family of ellipses.

For the special case when $\bar{x} = \bar{y} = 0$, equation (36) reduces to the following simple case:

$$\Pr\left\{ r \le r^* \mid \theta = \theta_0 \right\} = 1 - e^{-\frac{a^2 r^{*2}}{2}} \quad . \tag{42}$$

There is a special significance of equation (42) when related to the bivariate normal probability distribution. If r^* and θ are measured from the centroid of the probability ellipse, then the probability that $r \le r^*$ is the same as the given probability ellipse. Further, solving equation (42) for r^*, gives

$$r^* = \frac{1}{a} \sqrt{-2 \ln (1 - P)} \quad . \tag{43}$$

If a probability ellipse P is chosen, equation (42) gives the distance of r along any θ from the centroid of the ellipse to the intercept of the specified probability ellipse. If there is an interest in conditional probability of winds for a given θ relative to the monthly means, equation (43) is applicable. If it is desired to find the magnitude of the wind along any θ relative to the monthly mean to the intercept of a given probability ellipse, equation (43) is applicable.

D. Statistical Parameters With Respect To Any Orthogonal Axes

The five wind statistical parameters presented in table I are given with respect to the standard meteorological coordinate system; i.e., these parameters are for the U and V components. For many aerospace vehicles and range applications, there is a need for wind statistics with respect to orthogonal axes other than west to east and south to north. For example, it may be required to present wind statistics with respect to a flight azimuth of an

aerospace vehicle whose flight azimuth is α degrees from true north measured in a clockwise direction. The following sets of equations are presented to compute the five parameters for the new coordinate axes rotated α degrees clockwise from true north.

a. Rotation of the means through α degrees:

$$\bar{X}_\alpha = \bar{X} \cos (90 - \alpha) + \bar{Y} \sin (90 - \alpha) \tag{44}$$

$$\bar{Y}_\alpha = \bar{Y} \cos (90 - \alpha) - \bar{X} \sin (90 - \alpha) \quad . \tag{45}$$

b. Rotation of the variances through α degrees:

$$\sigma_{x_\alpha}^{\ 2} = \sigma_x^{\ 2} \cos^2 (90 - \alpha) + \sigma_y^{\ 2} \sin^2 (90 - \alpha)$$

$$+ 2\rho\sigma_x\sigma_y \cos (90 - \alpha) \sin (90 - \alpha) \tag{46}$$

$$\sigma_{y_\alpha}^{\ 2} = \sigma_y^{\ 2} \cos^2 (90 - \alpha) + \sigma_x^{\ 2} \sin^2 (90 - \alpha)$$

$$- 2\rho\sigma_x\sigma_y \cos (90 - \alpha) \sin (90 - \alpha) \quad . \tag{47}$$

c. Rotation of the linear correlation coefficient through α degrees:

$$\rho_\alpha = \frac{\operatorname{cov} (X,Y)_\alpha}{\sigma_{x_\alpha} \sigma_{y_\alpha}} \quad , \tag{48}$$

where $\operatorname{cov} (X,Y)_\alpha$ is the rotated covariance,

$$\operatorname{cov} (X,Y)_\alpha = \operatorname{cov} (X,Y) [\cos^2 (90 - \alpha) - \sin^2 (90 - \alpha)]$$

$$+ \cos (90 - \alpha) \sin (90 - \alpha) (\sigma_y^{\ 2} - \sigma_x^{\ 2})$$

and

$$\text{cov}\ (X,Y) = \rho\sigma_x\sigma_y$$

By using these rotational equations, the bivariate normal distribution with respect to any desired rotated coordinates can be obtained from sample estimates that have been computed with respect to a specific axis. The marginal distributions after rotation are also normally (univariate) distributed. Using the rotational equations greatly reduces computational efforts for applications requiring statistics with respect to several coordinate axes.

Appendix A presents some illustrative examples for the wind statistics of the specific RRA.

CHAPTER III. STATISTICS OF THERMODYNAMICS QUANTITIES AND MODELS

A. General Considerations

A.1. Objectives

The objective inherent in developing the thermodynamic section of the RRA was to describe the thermodynamic characteristics of the atmosphere using a minimum of data tabulations. A set of parameters was selected which, together, thermodynamically describe the climatological state of the atmosphere. These parameters are the pressure, temperature, density, dewpoint, virtual temperature, and water vapor pressure. Used together, these parameters permit the calculation of a large number of derived quantities. (Symbols used in the calculations in this chapter are summarized in table D.) Some of these quantities, such as the speed of sound, are dealt with in section III.E.

The probability distribution of each of the six thermodynamic RRA parameters is described by its mean value, its standard deviation, and its skewness. Several of these parameters (temperature, pressure, dewpoint and density) have probability distributions that are close to a univariate normal distribution; the others do not. The skewness parameter gives an estimate of the asymmetrical departures of a probability distribution.

Hydrostatically modeled mean values of pressure and density were calculated (table IV), so that users may determine the departure of the actual climatological values of these parameters from hydrostatic conditions. This was done by hydrostatically integrating the pressure from the lowest RRA data level to the termination altitude of the particular RRA.

A.2. Data Quality Control

Data limits derived from the following parameters were used to screen the thermodynamic portion of the RRA data base: temperature, pressure, dewpoint (for the 0- to 30-km portion only), and density (for the 30- to 70-km portion only). These limits were set to plus and minus six standard deviations from the mean values of each of these quantities. These limits were used to screen the thermodynamic portion of the RRA data base, according to the procedures described in section I.C. The data base used to generate the thermodynamic portion of the RRA (tables I, II, and IV) was considered to be free from errors under the following conditions:

a) The skewness values of the pressure and temperature were between -2.5 and 2.5 at all data levels.

b) The skewness values of the density were between -3.5 and 3.5 at data levels between 0 and 30 km.

c) The skewness values of the density were between -3.0 and 3.0 at data levels between 30 and 70 km.

d) The skewness values of the dewpoint were between -2.5 and 2.5 at all data levels with more than 10 data values.

TABLE D. LIST OF SYMBOLS USED IN CHAPTER III

C_s - Speed of sound

C_d - Collision diameter

E - Vapor pressure

g_ϕ - Gravity at latitude ϕ

H - Geopotential height

H_m - Geopotential height at a mandatory radiosonde data level

H_s - Geopotential height at a significant radiosonde data level

K_t - Coefficient of thermal conductivity

L - Mean free path length

M - Mean molecular weight of air at sea level

M3Q - Annual or monthly third moment of quantity Q

n - Refractive modulus

N Refractive index

NA - Avogadro's constant

N_Q - Number of values of quantity Q

P - Pressure

P_m - Pressure at a mandatory radiosonde data level

P_s - Pressure at a significant radiosonde data level

P_h - Hydrostatically integrated mean monthly or annual pressure

Q - Any tabulated RRA quantity

R* - Universal gas constant

R' - Specific gas constant of dry air

r', r* - Parameters used in converting z to h and vice versa

TABLE D. (concluded)

S - Sutherland's constant, used in the calculation of dynamic viscosity

T - Temperature

T_d - Dew point

T_v - Virtual temperature

T_{vm} - Virtual temperature at a mandatory radiosonde data level

T_{vs} - Virtual temperature at a significant radiosonde data level

V - Mean air particle speed

V_c - Mean collision frequency

w - Parameter used in the hydrostatic interpolation of pressure and density

Z - Geometric altitude

[illegible] - Wavelength

[illegible]$_Q$ - Skewness of quantity Q

[illegible] - Constant used in the equation for viscosity

[illegible] - Ratio of specific heat at constant pressure to specific heat at constant volume

[illegible] - Kinematic coefficient of viscosity

[illegible] - Dynamic coefficient of viscosity

[illegible] - Density

[illegible]$_h$ - Mean monthly or annual density derived from pressure height

[illegible] - Standard deviation of the quantity Q

A.3. Limitation of Thermodynamic Statistics

The correlation coefficients between the thermodynamic quantities and the moisture-related quantities were not calculated at discrete altitudes, nor were any of the correlations between altitudes. Therefore, valid statistical dispersion models that require the relationship between two or more of these quantities at the same altitude or between altitudes cannot be derived. Approximations for the correlation coefficients between pressure, virtual temperature, and density at discrete altitudes may be obtained from the coefficients of variation as developed by Buell (1970). The coefficient of variation is the standard deviation divided by the mean. The mean values and the standard deviations are taken from table II. A model for the profile of monthly and annual mean pressure, virtual temperature, and density that is in excellent agreement with the respective statistical mean values is given by table IV. This agreement results because the physical relationships, given by the hydrostatic equation and the equation of state, were used to derive table IV. When only the monthly or annual mean values for pressure, virtual temperature, and density are required, it is recommended that table IV be used.

B. Establishing Data Samples at the Required Altitude Levels

This section describes the computational procedures used to establish data samples of the thermodynamic RRA parameters at the RRA data levels. References are cited only when an equation given is one of many available in the literature or when an equation is stated in an unusual form.

B.1. Conversion of Data Recorded in Geopotential Heights to Geometric Altitude

The upper air rocketsonde observations used to obtain the table values above 30 km were recorded in terms of geometric altitude and can be interpolated directly to the altitude intervals shown in the tables. However, the radiosonde observations used to obtain the tabular values below 30 km were recorded in terms of geopotential heights. The change of coordinates from geopotential heights to geometric altitudes (h to z) is accomplished by calculating a table of geopotential heights that correspond exactly to the geometric altitudes at which the atmospheric parameters are tabulated. The radiosonde observations are then interpolated to these geopotential heights. The relationship used to calculate geometric altitude from geopotential height is

$$H = (r'z)/(r^*z) \quad . \tag{49}$$

where

$$r' = gr^*/9.80665$$

and

$$r^* = -2g_\phi/(\partial g_\phi/\partial z_0) \quad .$$

g_ϕ is the sea-level gravity at the latitude ϕ corresponding to the proper location. This value is given by (List, 1968)

$$g_\phi = 9.780356\ (1 + 5.2885 \times 10^{-3} \sin^2\phi - 5.9 \times 10^{-6} \sin^2 (2\phi)). \tag{50}$$

$\frac{\partial g_\phi}{\partial z_0}$ is the rate of change of gravity at the sea level. This quantity is given by the equation

$$\frac{\partial g_\phi}{\partial z_0} = -3.085462 \times 10^{-6} + 2.27 \times 10^{-9} \cos (2\phi) - 2 \times 10^{-12} \cos (4\phi). \tag{51}$$

The units used for gravity are meters per square second, while the units for $\frac{\partial g_\phi}{\partial z_0}$ are per square second.

The resulting table of values of H obtained by using even increments of 2 in equation (49) is shown in table IV of the RRA. The values of H above 30 km are not used in the interpolation of original data, but are included for the convenience of the user.

B.2. Calculations on the Original Rawinsonde Data Records

It was necessary to interpolate the information from the original rawinsonde data records to the geometric altitudes specified as the RRA data levels. The parameters for which this interpolation was required were the temperature, dewpoint, and pressure. The other parameters were calculated from the interpolated values at each RRA data level. These "derived" parameters were the water vapor pressure, density, and virtual temperature.

B.2.1. Calculation of the Geopotential Height at Significant Levels

Two somewhat different interpolation procedures were used to obtain data from radiosonde and rocketsonde observations at the levels shown in the tables. The procedure used to interpolate radiosonde observations began with the calculation of virtual temperature at each data level in a sounding. The virtual temperature was computed by

$$T_v = T/(1. - 0.379\ (e/p)) \quad , \tag{52}$$

where T_v and T are in degrees Kelvin and e and p are in millibars.

The radiosonde soundings contain a mix of data taken at "mandatory" and "significant" levels. Pressure, temperature, and dewpoint information was given in these soundings at both types of levels. However, geopotential height information was only given at the mandatory levels. The heights at the significant levels were "filled in" (calculated) hydrostatically using pressure and temperature data from these levels. This procedure permitted the use of most of the significant level data in the calculation of the RRA tables. The equation used for this process was

$$H_s = H_m + 29.2712617 \; \frac{(T_{vs} - T_{vm})}{2} \; \ln(P_s/P_m) \quad , \tag{53}$$

where the subscripts s and m denote quantities at significant and mandatory levels. This equation was not used if the difference between two adjacent mandatory levels was greater than 200 mb. All soundings with such data gaps were rejected for use in compiling the RRA.

B.2.2. Temperature

Radiosonde temperatures were interpolated logarithmically with respect to pressure using the equation

$$T = T_U + (T_L - T_U) \frac{\ln p - \ln p_L}{\ln p_U - \ln p_L} \quad . \tag{54}$$

where the subscripts U and L indicate values at the nearest data levels in the actual sounding above and below the interpolated level.

B.2.3. Pressure

The pressure values in each radiosonde sounding were interpolated to the RRA data levels using the equation

$$p = p_L \; \exp\left(\frac{H_L - H_U}{29.2712617\;(0.5)\;(T_{v_U} + T_{v_L})}\right) \tag{55}$$

where the subscript L indicates virtual temperature, geopotential height, and pressure values at the data level below and closest to the level at which data were required.

B.2.4. Dewpoint Temperature

Dewpoint values were interpolated logarithmically with respect to pressure using the equation

$$T_d = T_{dU} + (T_{dL} - T_{dU}) \left(\frac{\ln p - \ln p_L}{\ln p_U - \ln p_L}\right) \quad . \tag{56}$$

The subscripts U and L indicate data at the nearest upper and lower data levels in a sounding.

B.2.5. Derived Water Vapor Pressure

The water vapor pressure was calculated from the interpolated dewpoint values at the RRA data levels using Teten's approximation:

$$e = 6.11 \text{ mb} \times 10^{7.5(T_d - 273.15)/(T_d - 35.86)} \quad . \qquad (57)$$

B.2.6. Derived Density

The density values derived from radiosonde observations were calculated at the RRA data levels using the equation

$$\rho = 348.36787\ p/T_v \quad . \qquad (58)$$

B.2.7. Derived Virtual Temperature

The virtual temperature values were calculated at the RRA data levels for each sounding using the equation

$$T_v = T/(1 - 0.379(e/p)) \quad , \qquad (59)$$

where T_v and T are in degrees Kelvin, and p and e are the pressure and vapor pressure, respectively, in millibars.

B.3. Calculations on the Original Rocketsonde Data Records

The rocketsonde data records used to calculate the RRA table values above 30 km were given in terms of geometric altitude. For this reason, slightly different calculations were required to convert the recorded data values to values at the RRA data levels. The pressure, temperature, and density were all interpolated to the RRA data levels; moisture-related parameters (virtual temperature, water vapor pressure, and dewpoint) were not calculated, since atmospheric moisture at altitudes above 30 km was considered to be negligible.

No interpolation was done across gaps in the pressure or temperature data within a sounding larger than 7,000 m. Data values at the RRA levels within such a gap were set to missing.

B.3.1. Temperature

Rocketsonde temperatures were interpolated linearly with respect to geometric altitude using the equation

$$T = T_U + (T_L - T_U)\frac{Z - Z_L}{Z_U - Z_L} , \tag{60}$$

where the subscripts U and L indicate values at the nearest data level in the actual sounding above and below the interpolated level.

B.3.2. Pressure

The pressure values in each rocketsonde sounding were interpolated to the RRA data levels using the equation

$$P = P_L \exp\left(-\frac{g_\phi}{R^*}\frac{M(Z - Z_L)}{\bar{T}v} \cdot W^2\right) , \tag{61}$$

where $\bar{T}_v = \frac{Tv_U + Tv_L}{2}$ and $W = \frac{r^*}{\left(r^* + Z + \frac{Z - Z_L}{2}\right)}$.

B.3.3. Density

Rocketsonde density values were interpolated using the equation

$$\rho = \rho_L \exp\left(-\frac{g_\phi M}{R^*}\frac{(Z - Z_L)}{\bar{T}_v} \cdot W^2\right) , \tag{62}$$

where W is specified in section III.B.3.2.

C. Computation of Statistical Parameters for Tables II and III

A three-step procedure was used for computing the monthly and annual means, standard deviations, and skewness values from the data values at the RRA data levels. Initially, certain statistical sums were calculated and stored as the soundings in the data base were processed. These sums were then used to calculate the monthly statistics given in the RRA tables. The annual statistics were then calculated from these stored sums and the monthly statistics.

C.1. Stored Statistical Sums

The sums calculated were

$$\sum Q, \ \sum Q^2, \text{ and } \sum Q^3 \quad ,$$

where Q is any one of the quantities given in the thermodynamic part of the RRA.

C.2. Calculation of the Monthly Statistics

C.2.1. Monthly Means

The mean monthly values of the thermodynamic RRA quantities were calculated using the equation

$$\bar{Q} = \sum Q/N_Q \quad ,$$

where N_Q is the number of observed values of the quantity Q for a given month.

C.2.2. Monthly Standard Deviations

The monthly standard deviations of the thermodynamic RRA quantities were calculated using the equation

$$\sigma_Q = \sqrt{\frac{(N_Q \Sigma' Q^2) - (\Sigma Q)^2}{N_Q \cdot (N_Q - 1)}} \quad . \qquad (63)$$

C.2.3. Monthly Skewness Values

The monthly skewness values of the windspeed and of the thermodynamic RRA quantities were calculated using the equation

$$\alpha_Q = \frac{M3_Q}{\sigma_Q^{\ 3}} \quad ,$$

where $M3_Q$ is the third moment of the quantity Q, σ_Q is its standard deviation, and

$$M_{3Q} = \left[\frac{\Sigma_Q^{\ 3}}{N_Q} - \frac{3\Sigma_Q \Sigma_Q^{\ 2}}{N^2_Q} - \frac{2\Sigma_Q^{\ 3}}{N^3_Q}\right] \cdot \frac{N_Q^{\ 2}}{(N_Q - 1)(N_Q - 2)} \quad . \qquad (64)$$

C.3. Calculation of the Annual Statistics

Equations (63) and (64), used to calculate the monthly values of the standard deviations and skewness values, involve taking the differences between two pairs of large sums containing Q^2 and Q^3, where Q is any thermodynamic RRA quantity. Using these equations to compute the annual statistics would have resulted in a substantial loss of precision, as these sums become larger by several orders of magnitude in such a case. This problem was avoided by calculating the annual means, standard deviations, and skewness values from the monthly statistics.

C.3.1 Annual Mean Values

The annual mean values of the thermodynamic RRA quantities were calculated using the equation

$$Q_{ANN} = Q_A / N_Q \quad ,$$

where Q_A is the total of all observed values of Q and N_Q is the total number of observations of Q.

C.3.2. Annual Standard Deviations

The annual standard deviations of the thermodynamic RRA quantities were calculated using the equation

$$\sigma Q_{ANN} = \sqrt{\frac{1}{N_Q} \sum_{i=1}^{12} (N_{Qi}\ \sigma_{Qi}^{\ 2}) + \frac{1}{N_Q} \sum_{i=1}^{12} (N_{Qi}\ \bar{Q}_i^{\ 2}) - Q_{ANN}^{\ 2}} \quad , \qquad (65)$$

where N_{Qi} = the number of data values for Q in month i (i = 1 to 12), $\bar{Q}_i$ = the monthly mean of Q, and σ_{Qi} = the standard deviation of quantity Q in month i.

C.3.3. Annual Skewness Values

The annual skewness values of the thermodynamic RRA quantities were calculated using the equation

$$M3Q_{ANN} = \frac{1}{N} \sum_{i=1}^{12} (N_{Qi}\, M_{3Qi}) + \frac{3}{NQ_{ANN}} \sum_{i=1}^{12} (N_{Qi}\, \bar{Q}_i\, \sigma_{Qi}^{2})$$

$$+ \frac{1}{NQ_{ANN}} \sum_{i=1}^{12} (N_{Qi}\, Q_i^{3}) - \frac{3\bar{Q}_{ANN}}{NQ_{ANN}} \sum_{i=1}^{12} (N_{Qi}\, Q_i^{2})$$

$$- \frac{3\bar{Q}_{ANN}}{NQ_{ANN}} \sum_{i=1}^{12} (N_{Qi}\, \sigma_{Qi}^{2}) + 2\bar{Q}_{ANN}^{\;3} \quad , \qquad (66)$$

where M_{3Qi} = the third moment about the mean of quantity Q in month i and $M3Q_{ANN}$ = the annual third moment about the mean of the quantity Q.

D. Derived Monthly Mean and Annual Mean Model Atmospheres

A set of modeled monthly mean and annual mean hydrostatic values of pressure and density was calculated from the lowest RRA data level (0 km, mean sea level) upwards to 30 km, and from 30 km upwards to 70 km. The integration from 0 to 30 km was computed independently of the integration from 30 to 70 km because of the difference in data sources. The two different values for 30 km are provided for comparison. When 30-km data are required, the values given in the 0- to 30-km table should be used. These hydrostatically modeled mean values, which are given in table IV, are useful as a check on the validity of the pressure and density values given in table II. In most cases, the values in tables II and IV for any given data level are within 1 percent of each other. The hydrostatic pressure values in table IV were calculated using the equation

$$p_1 = p_0 \exp\left(- \frac{0.034162\ (H_1 - H_0)}{0.5\ (T_{v_1} + T_{v_0})} \right) , \qquad (67)$$

where $H_1 - H_0$ is in meters and a "0" subscript refers to values at the RRA data level immediately below the level being checked. p_0 at the lowest data level is set equal to the RRA mean pressure; p_1, calculated for the next highest data level, is taken as p_0 for the level above that. This process is repeated for all the other RRA data levels. The hydrostatic density corresponding to the hydrostatic pressures is calculated from these pressures and the RRA virtual temperature values using the formula

$$\rho_H = 348.36786\ P_H/T_v \quad , \qquad (68)$$

where ρ_H and P_H are the hydrostatic density and pressure shown in table IV of the RRA.

E. Thermodynamic Quantities Derivable from the Basic Tables

Several other quantities can be calculated from the statistics listed in tables I and II. Primary physical constants used in these calculations are listed in table E. The equations given in this section can be used to calculate the approximate mean values of these quantities at each RRA data level. It is not possible to infer or derive any information concerning the standard deviation or skewness values of these quantities from the data in tables II and III of the RRA.

E.1. Mean Air Particle Speed

The mean air particle speed, V, is the arithmetic average of the speeds of all air particles in the volume element being considered. For a valid average to occur, there must be a sufficient number of particles involved to represent mean conditions. The equation for V for dry air is

$$V = \sqrt{\frac{8}{\pi} \cdot \frac{R^*T}{M}} \quad . \tag{69}$$

A computational form for dry air, using tabulated values, is

$$V = \sqrt{7.3094 \times 10^2 \times T} \text{ (meters per second)} \quad , \tag{70}$$

where T is the temperature in degrees Kelvin from table II. Equation (69), when corrected for moist air, becomes

$$V = \sqrt{\frac{8}{\pi} \cdot R' \, T_V} \quad . \tag{71}$$

The computational form for moist air is

$$V = \sqrt{7.3094 \cdot 10^2 \cdot T_V} \text{ (meters per second)} \quad , \tag{72}$$

where T_V is the virtual temperature in degrees Kelvin from table III.

TABLE E. LIST OF PRIMARY PHYSICAL CONSTANTS

P_o = standard atmospheric pressure at sea level
= 1.013250×10^5 Newton/m^2 = 2116.22 lb/ft^2

ρ_o = standard atmospheric density at sea level
= 1.2250 kg/m^3 = 0.076474 lb/ft^3

T_o = standard temperature at sea level = 288.15 K = 15.0°C = 59.0°F

g_o = standard gravity at sea level at latitude 45°32'33"
= 9.80665 m/s^2

s = Sutherland's constant used in calculation of dynamic viscosity
= 110.4 K

T_I = ice point temperature at P_o = 273.15 K

β = constant used in calculation of dynamic viscosity
= 1.458×10^{-6} kg/s m K$^{\frac{1}{2}}$
= 7.3025×10^{-7} lb/s ft R$^{\frac{1}{2}}$

γ = ratio of specific heat of air at constant pressure to specific heat of air at constant volume
= 1.4

C_D = mean effective collision diameter of air molecules
= 3.65×10^{-10} m = 1.1975×10^{-9} ft

N_a = Avogadro's constant
= 6.022169×10^{26}/kg mol = 2.73179×10^{26}/lb mol

R* = gas constant = 8.31432 J/mol K

R' = gas constant for dry air = 2.8704×10^2 J/kg K

M = molecular weight of dry air = 28.966 g/mol

E.2. Mean Free Path

The mean free path, L, is the mean value of the distance traveled by each neutral air particle in a selected air parcel, between successive collisions with other particles in that parcel. A meaningful average requires that the selected parcel be large enough to contain a substantial number of particles. The equation for L is given by

$$L = \left(\frac{\sqrt{2}}{2\pi}\right)\left(\frac{R^*T}{N_a\ C_d{}^2\ P}\right) , \qquad (73)$$

where C_d is the effective collision diameter of the mean air molecules. The 1976 standard atmosphere value of 3.65×10^{-10} is valid for the range of altitudes in the RRA.

A computational form for moist air, using tabulated values, is

$$L = 2.335 \times 10^{-7}\ \frac{T}{P}\ \text{(meters)} , \qquad (74)$$

where T is the temperature in degrees Kelvin from table II and P is the pressure in millibars from table II.

A form of (73) to correct L for moist air is

$$L = \left(\frac{\sqrt{2}}{2\pi}\right)\frac{R'MT_v}{N_a\ C_d{}^2} . \qquad (75)$$

The computational form for moist air is

$$L = 2.3325 \times 10^{-7}\ \frac{T_v}{P}\ \text{(meters)} , \qquad (76)$$

where T_v is the virtual temperature in degrees Kelvin from table III and P is the pressure in millibars from table II.

E.3. Mean Collision Frequency

The mean collision frequency, V_c, is considered to be the average speed of air particles contained in an air parcel, divided by the mean free path of the particles inside that parcel. Computationally this is equivalent to

$$V_c = \frac{V}{L}\ (\mathrm{sec}^{-1}) \quad . \tag{77}$$

To determine V_c for dry air, use V and L from equations (70) and (74). To determine V_c for moist air, use V and L from equations (72) and (76).

E.4. Speed of Sound

The expression for the speed of sound, C_s, in meters per second in dry air, is

$$C_s = \sqrt{\frac{\gamma R^* T}{M}} \quad . \tag{78}$$

To compute C_s for dry air from tabulated values, use

$$C_s = \sqrt{4.0185 \times 10^2 \times T} \quad \text{(meters per second)} \quad , \tag{79}$$

where T is the temperature in degrees Kelvin from table II. One form for the speed of sound in moist air is

$$C_s \quad \sqrt{\gamma R' T_v} \quad . \tag{80}$$

where T_v is the virtual temperature from table III. A computational form for moist air is

$$C_s \quad \sqrt{4.0185 \times 10^2\ T_v} \quad \text{(meters per second)} \quad . \tag{81}$$

E.5. Dynamic Coefficient of Viscosity

The coefficient of dynamic viscosity, μ, is defined as a coefficient of internal friction developed where gas regions move adjacent to each other at different velocities. The following expression is taken from the U.S. Standard Atmosphere (1976):

$$\mu = \frac{\beta \cdot T^{3/2}}{T + S} \quad . \tag{82}$$

The computational form is

$$\mu = \frac{(1.458 \times 10^{-6}) \cdot T^{3/2}}{T + 110.4} \quad \text{(kilograms per second per meter)} \quad , \tag{83}$$

where T is the temperature in degrees Kelvin from table II.

E.6. Kinematic Coefficient of Viscosity

The kinematic coefficient of viscosity, designated as η, is defined to be the ratio of the dynamic coefficient of viscosity of a gas to its density, or

$$\eta = \mu / \rho \quad . \tag{84}$$

The computational form is

$$\eta = 1.0 \times 10^{3} \ \mu / \rho \quad \text{(square meters per second)} \quad , \tag{85}$$

where μ is the dynamic coefficient of viscosity from equation (83) and ρ is the density in grams per cubic meter from table II.

E.7. Coefficient of Thermal Conductivity

The empirical expression used for the coefficient of thermal conductivity, designated as K_t, is given in the 1976 Standard Atmosphere as

$$K_t = \frac{2.65019 \times 10^{-3} \cdot T^{3/2}}{T + 245.4 \times 10^{-(12/T)}} \quad \text{(watts per meter per degree Kelvin)} \quad , \tag{86}$$

where T is in degrees Kelvin.

E.8. Refractive Modulus and Refractive Index

The refractive modulus or refractivity (Selby and McClatchey, 1975; Smith and Weintraub, 1953) is defined as N, where

$$N = (n - 1) \cdot 10^{6} \tag{87}$$

and n is the refractive index.

For microwave frequencies below approximately 30 GHz (equivalent to wavelengths above 1 cm), N, the refractive modulus, is given by the empirical equation

$$N = 77.6 \, \frac{P}{T_d} + 3.73 \times 10^5 \, \frac{e}{T^2} \text{ (dimensionless)}, \qquad (88)$$

where E and P are in millibars and T and T_d are in degrees Kelvin.

The following expression is valid for the visible and infrared wavelengths shorter than approximately 30 μm (0.03 mm).

$$N = 77.6 \, \frac{P}{T} + 0.584 \, \frac{P}{T\lambda} \text{ (dimensionless)}, \qquad (89)$$

where λ is the wavelength in microns and T is in degrees Kelvin.

The expression for N for the wavelength from 0.03 mm to 1 cm is an extremely complex function of wavelength.

CHAPTER IV. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This document satisfies the technical objectives established for the RRAC by the RCC MG. Upper air statistics and models for wind and thermodynamic quantities for the specific site have been derived in a consistent and uniform manner, which will be used in publications for all other assigned site locations. These RRAs represent an improvement over the previously published RRAs because of the availability of more extensive upper air data bases and the adaptation of more advanced statistical techniques. A statistical measure of central tendency (mean values) and a measure of dispersion (standard deviation with respect to the mean values) for monthly and annual reference periods have been tabulated for all variables in a consistent manner from data bases that have been edited and quality-controlled in the same manner. Further, a statistical measure for symmetry (skewness coefficient that involves the third statistical moment) has been tabulated for all variables except the U and V wind components. Even with these improvements, the user of these RRAs must recognize certain limitations of the statistical tabulations:

1) The wind profile structure with respect to altitude cannot be modeled from the RRA statistics because the interlevel and crosslevel correlations were not computed.

2) The profile structure with respect to altitude for any of the thermodynamic variables or any quantities derivable from these variables cannot be modeled because the prerequisite correlations were not computed. However, the profiles of monthly and annual means for pressure, virtual temperature, and density are in agreement (table IV) with the hydrostatic equation and the equation of state.

The preceding limitations are cited to prevent a misuse of the RRAs. More extensive statistical tabulations were beyond the scope of this committee's task. As greater insight is gained through usage of these RRAs, many adaptations of the statistical tabulations for specific engineering and scientific applications are envisioned.

Recommendations

It is recommended than the wind and thermodynamic statistical tabulations and attendant models contained in the RRAs be used as a standard reference source, as may be appropriate, by the ranges and range users. It is further recommended that the respective Range Staff Meteorologist or responsible agency staff member be consulted for the applicability of the RRAs for specific engineering applications.

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In addition to the documents above and the present RRA for Edwards AFB, California, the revised series will include RRAs for the following locations:

Point Mugu, California
Eglin AFB, California
Ascension Island, South Atlantic
Taquac (Guam)
Barking Sands, Hawaii

CONVERSION UNITS

Physical Constants and Conversion Factors

Numerical values in this document are given in the International System of Units (SI, Système International d'Unités). The values in parentheses are equivalent U.S. Customary Units, which are English units adapted for use by the United States of America. The SI and U.S. Customary Units provided in table F are those normally used for measuring and reporting atmospheric data.

By definition, the following fundamental conversion factors are exact:

Type	U.S. Customary Units	Metric
Length	1 U.S. yard (yd)	0.9144 meter (m)
Mass	1 avoirdupois pound (lb)	453.59237 gram (g)
Time	1 second (s)	1 second (s)
Temperature	1 degree Rankine (°R)	9/5 degree Kelvin (K)

To aid in the conversion of units, conversion factors based on the above fundamental conversion factors are given in table F.

TABLE F. FACTORS FOR CONVERSION UNITS

Type of Data	METRIC Unit	METRIC Abbreviation	U. S. CUSTOMARY Unit	U. S. CUSTOMARY Abbreviation	CONVERSION Multiply	CONVERSION By	CONVERSION To Get
TEMPERATURE							
Ambient Temperature	degree Celsius	°C	degree Fahrenheit	°F	°F - 32	0.5556	°C
	degree Kelvin	K	degree Rankine	°R	°C	1.8*	°F - 32
					°R	1.00*	°F + 459.67
					°R - 459.67	1.00*	°F
					K	1.00*	°C + 273.15
					K - 273.15	1.00*	°C
Temperature Change	degree Celsius	°C	degree Fahrenheit	°F	°C or K	1.8*	temp. change °F or °R
	degree Kelvin	K	degree Rankine	°R	°F or °R	0.5556	temp. change °C or K
DENSITY							
Water Vapor Vapor Concentration (Absolute Humidity) and Ambient Density	gram per cubic meter	g m^{-3}	grain per cubic foot	gr ft^{-3}	g m^{-3}	0.43700	gr ft^{-3}
	gram per cubic centimeter	g cm^{-3}			gr ft^{-3}	2.2883	g m^{-3}
					g m^{-3}	10^{-6}*	g cm^{-3}
					g cm^{-3}	4.370×10^{5}	gr ft^{-3}
					gr ft^{-3}	2.288×10^{-6}	g cm^{-3}
WIND							
Windspeed	meter per second	m s^{-1}	mile per hour	mph	m s^{-1}	2.2369	mph
			knots	knots	mph	0.44704*	m s^{-1}
			feet per second	ft s^{-1}	m s^{-1}	1.9438	knots
					knots	0.51444	m s^{-1}
					mph	0.868976	knots
					knots	1.15078	mph
					m s^{-1}	3.2808	ft s^{-1}
					ft s^{-1}	0.3048*	m s^{-1}
DISTANCE							
Length	meter	m	feet	ft	m	3.2808	ft
	micron	μ	inch	in.	ft	0.3048*	m
	Angstrom unit	Å			in.	$2.54 \times 10^{+4}$*	μ
					in.	$2.54 \times 10^{+8}$*	Å
					m	10^{+6}*	μ
					m	10^{+10}*	Å

* Defined exact conversion factor

TABLE F. (continued)

Type of Data	METRIC Unit	METRIC Abbreviation	U.S. CUSTOMARY Unit	U.S. CUSTOMARY Abbreviation	CONVERSION Multiply	By	To Get
DISTANCE (Concluded)					μ	10^{-6}*	m
					μ	3.937×10^{-5}	in.
					Å	10^{-10}*	m
					Å	3.937×10^{-9}	in.
MASS							
Weight	gram	g	grain	gr	lb	0.45359237*	kg
	kilogram	kg	pound	lb	lb	453.59237*	g
					kg	2.20462	lb
					g	15.4324	gr
					gr	0.06480	g
PRESSURE							
Atmospheric	newton per square meter	newton m^{-2}	pound force per square inch	lb $in.^{-2}$	mb	10^{-3}*	bar
					bar	10^{3}*	mb
	millimeter of Mercury	mmHg	inch of Mercury	in.Hg	newton m^{-2}	10^{-2}*	mb
					newton m^{-2}	1.4504×10^{-4}	lb $in.^{-2}$
					lb $in.^{-2}$	6.8948×10^{3}	newton m^{-2}
	bar	bar			mb	1.4504×10^{-2}	lb $in.^{-2}$
	millibar	mb			lb $in.^{-2}$	68.948	mb
	dyne per square centimeter (microbar)	dyne cm^{-2}			mb	10^{3}*	dyne cm^{-2}
					dyne cm^{-2}	10^{-3}*	mb
	kilogram force per square meter	kg m^{-2}			lb $in.^{-2}$	6.8948×10^{4}	dyne cm^{-2}
					dyne cm^{-2}	1.4504×10^{-5}	lb $in.^{-2}$
					mb	10.1972	kg m^{-2}
					kg m^{-2}	0.0980665	mb
					lb $in.^{-2}$	703.0696	kg m^{-2}
					kg m^{-2}	0.0014223	lb $in.^{-2}$
					mb	2.9530×10^{-2}	in.Hg (32°F)
					mb	0.75006	mmHg (0°C)
					in.Hg (32°F)	25.40*	mmHg (0°C)
					mmHg (0°C)	1.33322	mb
					in.Hg (32°F)	33.8639	mb
	pascal	Pa			Pa	1.00*	newton m^{-2}

* Defined exact conversion factor

TABLE I-1. WIND STATISTICAL PARAMETERS

JANUARY

ATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S.D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	1.11	2.54	.4104	.03	1.61	2.12	2.40	1.88	393.
1.000	1.48	5.52	.4084	-.66	2.86	4.87	4.19	1.67	394.
2.000	1.20	8.16	.3671	-2.19	5.40	8.89	4.77	.83	389.
3.000	4.33	9.05	.2104	-2.87	7.55	11.09	6.54	.93	388.
4.000	7.07	10.06	.1918	-3.70	8.98	13.60	7.75	1.02	381.
5.000	8.89	11.14	.2125	-4.25	10.74	16.00	8.97	.89	378.
6.000	10.34	12.47	.2439	-4.82	12.25	18.31	9.93	.71	376.
7.000	11.79	13.70	.2216	-5.50	13.81	20.62	11.02	.75	367.
8.000	13.60	15.16	.2276	-5.57	14.86	22.75	12.18	.75	360.
9.000	15.11	16.59	.2676	-5.84	15.84	25.06	12.75	.66	357.
10.000	16.71	17.42	.2667	-6.07	16.70	26.98	13.01	.53	352.
11.000	19.01	17.41	.2606	-5.84	16.65	28.04	13.74	.73	344.
12.000	20.71	15.56	.2707	-5.27	15.34	27.79	12.68	.57	341.
13.000	21.02	13.33	.3191	-4.79	13.10	26.43	10.71	.28	336.
14.000	20.35	11.86	.3466	-4.46	10.60	24.50	9.23	.22	334.
15.000	[illegible]	10.24	.3265	-3.77	[illegible]	[illegible]	8.29	.25	[illegible]
16.000	16.43	8.89	.3416	-3.54	7.67	19.17	7.26	.22	307.
17.000	13.48	8.04	.3355	-3.34	6.22	15.98	6.36	.53	287.
18.000	10.44	7.74	.2876	-3.03	5.12	12.86	6.20	.93	287.
19.000	7.87	7.56	.2333	-2.83	4.40	10.57	5.90	1.18	264.
20.000	5.42	7.71	.1903	-2.74	3.75	8.85	5.65	1.32	276.
21.000	3.29	8.17	.2177	-2.61	3.44	8.10	5.51	1.71	269.
22.000	1.95	9.14	.2510	-2.31	3.60	8.33	6.00	2.02	263.
23.000	1.68	9.70	.3303	-2.35	3.77	8.86	6.14	1.83	256.
24.000	1.19	10.60	.3336	-2.36	4.31	9.74	6.53	1.72	249.
25.000	1.28	11.80	.4499	-2.27	4.84	10.81	7.22	1.78	242.
26.000	1.35	12.86	.5121	-2.05	5.23	11.68	7.87	1.87	232.
27.000	1.76	13.20	.4360	-1.94	5.43	12.22	7.78	1.32	204.
28.000	3.17	14.47	.5365	-1.91	6.07	13.59	8.64	1.19	191.
29.000	3.46	15.40	.4446	-2.19	6.47	14.61	8.99	1.09	134.
30.000	5.64	16.60	.4184	-1.55	6.91	15.77	10.33	.87	121.
32.000	7.39	18.73	.5144	-.16	7.47	18.50	10.82	.81	167.
34.000	10.77	21.16	.5914	-.31	8.76	21.73	12.89	.62	167.
36.000	13.29	23.09	.6028	-.81	9.21	23.66	15.26	.66	167.
38.000	15.92	24.70	.5108	-1.52	9.92	25.49	17.67	.61	168.
40.000	18.56	24.63	.4082	-1.57	11.25	27.27	18.29	.62	158.
[illegible]	22.20	25.32	.3070	.35	13.28	30.42	19.56	.56	168.
44.000	28.77	26.53	.3903	2.75	15.31	36.32	21.25	.35	168.
46.000	36.23	30.13	.4236	6.74	18.45	44.96	24.10	.43	167.
48.000	42.91	31.79	.4328	8.72	19.03	51.47	25.23	.26	167.
50.000	46.30	31.52	.4139	10.50	18.99	54.03	26.16	.21	166.
52.000	48.14	30.08	.4032	10.53	17.53	54.89	24.99	-.03	166.
54.000	50.10	29.81	.4018	10.30	17.69	56.69	24.50	-.08	162.
56.000	51.89	29.84	.3181	9.20	16.87	57.86	24.50	-.33	158.
58.000	55.21	29.70	.2318	10.01	17.55	60.19	26.67	-.29	136.
60.000	59.92	32.44	.4657	8.38	20.56	64.78	30.57	-.20	99.
62.000	69.74	30.52	.4814	11.83	18.57	73.58	29.33	-.36	64.
64.000	77.55	32.97	.3750	-9.41	18.33	80.95	31.06	-.30	57.
66.000	84.97	31.44	.3150	3.56	16.83	87.21	29.85	-.32	56.
68.000	84.36	28.90	.3569	-2.91	15.75	86.29	27.51	-.30	55.
70.000	78.61	30.23	.2030	-5.42	17.28	81.21	28.63	-.28	53.

TABLE I-2. WIND STATISTICAL PARAMETERS

FEBRUARY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S.D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	1.38	2.60	.4729	.29	1.77	2.23	2.62	1.83	358.
1.000	2.12	5.78	.4433	-.87	3.18	5.40	4.42	1.14	363.
2.000	1.16	7.37	.2754	-2.52	6.01	8.62	4.86	.88	364.
3.000	4.13	7.56	.1351	-3.54	7.71	10.49	5.98	.80	360.
4.000	6.95	8.34	.1196	-4.81	9.64	13.34	7.[illegible]5	.75	359.
5.000	9.26	8.95	.1264	-5.51	11.40	15.94	8.46	.67	352.
6.000	11.06	9.89	.1543	-5.77	12.51	18.07	9.09	.72	348.
7.000	13.23	11.23	.1864	-6.58	13.31	20.64	9.75	.61	342.
8.000	15.49	12.72	.1709	-6.80	14.70	23.19	11.20	.67	337.
9.000	18.16	14.73	.1958	-7.52	16.11	26.3[illegible]	12.92	.72	335.
10.000	21.0[illegible]	16.12	.1829	-9.11	16.31	29.03	13.85	.67	331.
11.000	23.47	16.16	.2012	-8.40	16.01	30.74	13.90	.70	328.
12.000	24.91	14.92	.1702	-7.74	14.94	30.84	13.20	.76	324.
13.000	24.45	13.07	.1838	-7.10	13.21	29.25	11.71	.94	323.
14.000	22.88	11.05	.2646	-6.19	10.65	26.59	9.50	.38	320.
15.000	20.66	9.90	.2728	-5.61	8.96	23.81	8.33	.54	318.
16.000	17.35	8.19	.2886	-5.08	7.64	20.13	6.85	.30	293.
17.000	13.61	6.92	.2768	-4.46	6.28	16.12	5.71	.18	278.
18.000	10.09	6.48	.1506	-4.05	5.00	12.50	5.38	.68	281.
19.000	6.83	5.92	.0850	-3.58	4.30	9.43	4.89	1.18	274.
20.000	4.07	5.55	-.0317	-3.11	3.69	7.36	4.04	1.14	268.
21.000	2.04	5.87	-.1573	-2.85	3.24	6.58	3.72	1.20	259.
22.000	.54	5.89	-.1021	-2.41	3.22	6.21	3.52	1.06	247.
23.000	.08	6.00	.0402	-2.14	3.01	6.07	3.56	.94	238.
24.000	.00	7.07	.1326	-2.02	3.18	6.81	4.20	.88	234.
25.000	.06	8.44	.1495	-1.79	3.28	7.79	4.92	.96	228.
26.000	.77	9.33	.2308	-1.35	3.42	8.44	5.44	.99	220.
27.000	2.24	10.85	.2357	-1.21	3.51	9.74	6.43	.84	190.
28.000	3.51	12.42	.3188	-1.12	3.69	11.24	7.38	.97	180.
29.000	5.55	14.11	.2416	-.86	3.97	12.92	8.85	.87	134.
30.000	7.03	16.01	.1990	-.75	4.41	14.65	10.49	1.03	126.
32.000	11.00	18.42	.4303	-.72	5.12	19.61	10.04	.22	166.
34.000	15.60	21.73	.5111	-.04	6.45	24.76	11.90	-.03	166.
36.000	20.11	25.01	.5548	-.29	7.08	29.28	14.82	-.05	166.
38.000	24.15	28.12	.5250	-.09	8.59	33.59	17.79	.06	169.
40.000	26.99	29.18	.4533	-.57	10.75	36.44	19.08	.12	169.
42.000	29.66	29.52	.4467	.22	12.44	38.82	19.89	.06	169.
44.000	32.20	29.91	.4457	2.50	15.02	42.01	19.85	.08	169.
46.000	34.85	30.27	.3899	4.79	15.87	44.60	20.31	.00	169.
48.000	36.90	29.29	.3748	6.94	14.95	45.96	19.33	-.08	168.
50.000	38.93	27.64	.3590	7.82	16.34	47.59	18.40	-.11	168.
52.000	41.35	26.30	.3845	7.99	15.73	48.92	17.76	-.04	166.
54.000	45.66	24.75	.4000	8.16	15.65	51.73	18.16	-.11	158.
56.000	49.56	25.83	.3846	8.39	15.61	55.26	19.53	.11	149.
58.000	54.27	25.04	.4049	9.18	15.42	58.98	20.28	-.50	128.
60.000	60.72	23.64	.4025	7.84	18.89	65.62	18.77	-.38	91.
62.000	67.99	22.94	.2683	9.52	17.76	71.77	19.93	.14	56.
64.000	72.70	26.04	.0698	8.36	15.26	75.64	23.17	.44	47.
66.000	73.61	27.15	.1421	5.79	13.32	76.20	23.48	.31	44.
68.000	72.47	28.33	.0140	2.99	12.70	75.54	22.54	-.03	41.
70.000	68.10	22.05	-.1098	-2.01	17.07	70.72	20.21	-.16	39.

TABLE I-3. WIND STATISTICAL PARAMETERS

MARCH

TATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S.D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	2.23	3.37	.2395	.64	2.25	3.45	3.15	.97	482.
1.000	4.10	6.18	.2781	-.18	3.49	6.55	4.93	.93	491.
2.000	2.96	7.33	.1941	-1.27	6.08	8.74	4.95	.72	489.
3.000	5.54	8.04	.0699	-2.35	8.21	11.11	6.68	1.26	488.
4.000	8.22	8.92	.0472	-2.66	9.64	13.64	7.80	.77	483.
5.000	10.57	10.59	.0505	-3.03	11.14	16.34	9.47	.87	480.
6.000	12.87	11.92	.0277	-3.44	12.54	19.02	10.72	.82	476.
7.000	14.72	13.16	.0548	-3.60	13.75	21.41	11.54	.79	467.
8.000	17.00	14.40	.1095	-3.85	15.00	24.10	12.44	.64	459.
9.000	19.34	15.63	.1461	-4.12	16.24	26.87	13.28	.50	456.
10.000	21.37	15.88	.1836	-3.96	16.81	28.69	13.53	.36	446.
11.000	23.16	15.34	.1962	-3.72	16.55	29.68	13.34	.39	432.
12.000	24.57	14.57	.1833	-3.28	15.09	29.83	12.81	.44	432.
13.000	24.58	12.71	.2176	-2.76	13.13	28.55	11.40	.42	427.
14.000	23.81	11.15	.1638	-2.06	10.98	26.63	10.31	.49	417.
15.000	[illegible]	9.74	[illegible]	[illegible]	9.34	[illegible]	[illegible]	.31	414.
16.000	18.77	8.94	.2391	-.92	8.22	20.70	8.50	.68	390.
17.000	15.64	7.76	.1647	-.90	6.42	17.12	7.31	.88	366.
18.000	12.05	6.86	.1107	-.78	5.24	13.44	6.27	.92	365.
19.000	8.56	5.93	.1221	-.62	4.35	10.01	5.23	.55	359.
20.000	5.75	5.54	.1303	-.74	3.52	7.51	4.50	1.14	355.
21.000	3.61	5.38	.0645	-.70	2.94	6.09	3.73	1.82	338.
22.000	2.24	5.90	.0474	-.67	2.96	5.94	3.70	1.51	330.
23.000	1.96	6.37	.1193	-.59	2.67	6.04	3.93	1.84	325.
24.000	1.92	7.61	.1028	-.57	2.90	6.93	4.71	1.73	310.
25.000	2.05	8.80	.2273	-.17	2.83	7.92	5.19	1.16	305.
26.000	2.49	9.44	.2313	.13	3.04	8.80	5.19	.65	295.
27.000	3.16	10.65	.1506	.12	3.04	10.02	5.66	.54	266.
28.000	4.18	12.30	.1238	.20	3.40	11.55	6.81	.56	243.
29.000	6.66	13.84	.2231	.08	3.60	13.51	8.10	.34	183.
30.000	8.66	15.58	.1509	-.21	3.91	15.88	8.94	.28	175.
32.000	13.10	15.20	.3004	1.08	5.10	17.92	10.39	.48	140.
34.000	18.23	17.00	.2374	2.16	5.87	22.49	12.40	.35	140.
36.000	23.92	18.90	.4021	2.06	7.13	27.70	14.68	.23	140.
38.000	28.42	21.42	.4207	2.35	7.98	32.30	17.06	.23	141.
40.000	32.00	22.47	.2574	3.43	9.02	35.86	18.29	.06	141.
42.000	34.47	20.00	.2407	4.32	10.04	37.95	18.12	-.02	141.
44.000	35.85	19.85	.2889	5.68	11.82	39.24	17.60	-.03	141.
46.000	36.63	18.72	.3385	8.00	11.69	39.62	17.95	.11	141.
48.000	36.02	17.73	.2779	8.89	11.39	40.82	[illegible]	.06	141.
50.000	38.10	17.43	.3243	9.49	12.52	41.64	16.36	.09	140.
52.000	38.10	17.53	.3462	11.01	13.15	41.97	17.03	.04	139.
54.000	39.11	16.97	.3933	11.83	13.03	42.82	17.10	.14	135.
56.000	40.88	17.91	.3389	13.20	13.24	45.11	17.46	.12	128.
58.000	42.73	20.14	.3701	10.88	13.48	46.56	19.01	.00	114.
60.000	44.56	21.80	.3506	8.47	14.20	47.71	21.35	.01	79.
62.000	43.42	22.89	.1844	6.22	15.73	46.95	22.07	.03	59.
64.000	40.14	24.71	.2398	3.02	16.33	44.06	23.43	-.01	47.
66.000	35.52	24.30	.0904	.61	18.38	41.50	21.38	.09	44.
68.000	27.52	24.03	-.0429	-1.05	16.11	35.19	18.58	.33	42.
70.000	20.53	24.04	-.0753	-.50	16.64	31.27	16.88	.33	41.

TABLE I-4. WIND STATISTICAL PARAMETERS

APRIL

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	2.70	3.20	.4778	1.12	2.32	3.81	3.11	.89	430.
1.000	5.11	5.77	.4118	.16	3.69	6.96	4.95	.78	436.
2.000	3.70	6.64	.2940	-.63	5.61	8.22	4.67	.73	436.
3.000	5.29	7.55	.2745	-.64	7.08	9.88	6.14	.98	432.
4.000	8.59	8.50	.2418	-1.30	9.21	13.05	7.88	.91	431.
5.000	11.11	9.51	.1860	-1.77	11.45	16.08	9.45	.90	425.
6.000	13.41	10.69	.1894	-1.86	13.34	19.04	10.61	.76	424.
7.000	15.48	11.60	.2434	-2.01	15.16	21.73	11.64	.63	422.
8.000	17.65	13.00	.3299	-1.94	16.75	24.50	12.80	.63	412.
9.000	19.88	13.94	.3656	-1.97	17.99	27.06	13.53	.64	407.
10.000	21.89	13.87	.4212	-1.48	18.31	28.77	13.42	.63	400.
11.000	23.55	13.21	.4264	-1.00	17.25	29.52	12.46	.61	394.
12.000	24.28	12.20	.4391	-.16	15.66	29.30	11.15	.64	382.
13.000	24.05	10.63	.3691	.67	13.49	27.78	10.09	.76	372.
14.000	22.55	9.15	.3197	1.34	11.24	25.35	8.79	.52	363.
15.000	20.19	8.16	.3650	1.89	9.51	22.49	7.88	.44	355.
16.000	17.45	7.36	.3178	2.12	8.07	19.36	7.30	.56	338.
17.000	13.60	5.92	.2218	2.24	6.37	15.22	5.80	.44	320.
18.000	9.86	5.23	.1604	2.15	5.32	11.47	5.09	.70	319.
19.000	7.11	4.84	.2354	1.76	4.44	8.70	4.58	.67	317.
20.000	4.30	4.52	.1823	1.16	3.27	6.12	3.66	1.11	310.
21.000	2.37	4.33	.1996	.67	2.69	4.82	2.96	1.30	306.
22.000	1.19	4.72	.2494	.32	2.71	4.70	3.00	1.36	297.
23.000	1.02	4.92	.2675	.22	2.52	4.82	2.89	.99	281.
24.000	1.25	5.70	.3307	.21	2.72	5.51	3.32	1.35	273.
25.000	1.90	6.01	.3317	.20	2.99	5.93	3.65	1.14	272.
26.000	2.90	6.57	.3262	.10	3.15	6.61	4.21	.84	261.
27.000	4.64	7.30	.2921	.26	3.34	7.62	5.28	.86	228.
28.000	6.28	7.37	.2686	.36	3.57	8.38	6.03	.88	212.
29.000	8.25	8.04	.2837	.21	3.88	10.02	6.88	.71	157.
30.000	10.17	8.14	.2666	.11	4.21	11.39	7.57	.66	150.
32.000	11.66	8.29	.2853	.88	4.83	13.17	7.41	.57	145.
34.000	15.29	9.24	.3127	1.20	5.40	16.55	8.67	.41	145.
36.000	18.09	10.69	.4647	1.74	5.79	19.29	10.27	.53	147.
38.000	19.21	12.62	.3762	.34	7.16	21.07	11.62	.35	147.
40.000	18.30	15.64	.3200	-.84	6.71	21.12	13.36	.48	147.
42.000	14.60	16.73	.0435	1.05	7.85	19.61	13.05	.69	147.
44.000	13.20	16.35	.1467	4.00	8.20	18.86	12.97	.79	147.
46.000	13.49	17.01	.2510	5.06	8.25	19.43	13.66	.74	147.
48.000	12.83	18.45	.2271	5.80	7.14	20.04	13.70	.80	147.
50.000	12.82	18.43	.1091	5.53	7.78	20.18	13.65	.72	146.
52.000	10.65	18.36	.1358	5.19	7.62	19.36	12.62	.78	146.
54.000	7.41	18.33	.2634	4.75	8.85	18.64	11.94	.76	143.
56.000	5.55	18.29	.2315	6.75	8.38	18.91	11.02	.98	135.
58.000	4.19	17.18	.1997	6.60	9.25	18.41	10.03	.83	126.
60.000	2.39	18.41	.2710	4.32	10.37	19.18	9.94	.64	87.
62.000	.19	15.83	.0603	4.30	9.03	16.63	8.30	.36	51.
64.000	-1.08	14.82	-.1153	3.90	10.15	16.16	8.51	.21	45.
66.000	-2.24	14.60	-.3729	1.48	11.98	16.74	8.77	.39	43.
68.000	-2.73	10.39	-.0621	-.87	12.05	14.31	7.21	.32	42.
70.000	-5.14	12.94	.1416	-4.23	8.40	14.76	7.76	.33	41.

TABLE I-5. WIND STATISTICAL PARAMETERS

MAY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S.D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	2.77	2.72	.4003	1.69	1.97	3.71	2.84	.66	390.
1.000	5.58	5.08	.4453	.72	2.85	6.58	4.72	.86	389.
2.000	3.40	5.67	.1832	-.24	4.42	6.77	4.16	.72	386.
3.000	3.09	7.12	.0494	.54	5.22	7.78	5.21	1.41	385.
4.000	4.62	7.65	.0770	.78	6.61	9.13	6.37	1.14	381.
5.000	6.88	8.31	.0307	.74	8.60	11.37	7.84	1.04	376.
6.000	8.90	9.11	.0233	.90	10.17	13.57	9.05	.97	375.
7.000	10.62	10.56	.0732	1.01	11.45	15.70	10.46	1.00	367.
8.000	12.36	12.15	.1399	1.28	12.35	17.92	11.54	.92	363.
9.000	14.12	13.29	.1896	1.58	13.50	20.17	12.40	.76	364.
10.000	15.94	14.13	.2600	1.93	14.26	22.10	13.11	.66	365.
11.000	17.56	14.29	.3052	2.25	14.23	23.36	13.18	.60	364.
12.000	18.47	13.49	.3168	2.53	13.33	23.42	12.57	.63	362.
13.000	18.48	11.40	.3508	3.32	11.31	22.20	10.82	.64	351.
14.000	17.38	9.25	.3161	3.55	9.49	20.25	8.94	.45	349.
15.000	15.38	7.68	.2697	3.54	7.92	17.68	7.60	.39	349.
16.000	12.63	6.29	.2742	3.26	6.66	14.68	6.33	.51	328.
17.000	9.62	5.01	.2349	3.11	5.25	11.35	5.10	.73	310.
18.000	6.06	4.52	.2468	2.57	4.18	7.89	4.34	1.14	305.
19.000	2.67	3.72	.2456	1.52	3.21	4.89	3.10	1.42	298.
20.000	-.14	3.28	.0315	.65	2.36	3.58	1.99	.93	299.
21.000	-1.94	3.02	-.0160	.25	2.23	3.75	1.96	.67	283.
22.000	-2.62	3.22	.0741	.03	1.97	4.01	2.23	.84	283.
23.000	3.05	3.48	.0779	-.08	1.90	4.26	2.61	1.05	273.
24.000	-3.15	3.96	.0715	-.20	2.33	4.79	2.83	.94	272.
25.000	-2.96	4.29	.1193	-.26	2.27	4.90	2.89	1.03	272.
26.000	-2.55	4.90	.1030	-.15	2.38	5.17	3.07	1.08	267.
27.000	-2.15	5.51	.0773	-.08	2.64	5.56	3.27	1.10	232.
28.000	-1.68	6.02	.1165	.00	2.59	5.84	3.40	1.16	218.
29.000	-.98	6.55	.1142	.07	2.85	6.38	3.34	.87	166.
30.000	-.20	6.73	.1166	.06	2.94	6.50	3.39	.72	163.
32.000	-.14	5.73	.0141	1.57	3.35	6.00	3.22	.75	164.
34.000	.29	6.16	.1085	1.64	3.56	6.40	3.50	.95	164.
36.000	-.95	7.70	.0881	1.09	3.61	7.53	4.18	.70	164.
38.000	-2.83	8.62	-.0405	.12	4.10	8.72	4.76	1.07	165.
40.000	-6.27	8.53	-.3259	-.11	4.44	10.04	5.53	.79	165.
42.000	-10.10	8.20	-.1420	.09	4.26	11.99	6.70	.50	[illegible]
44.000	-13.74	7.50	-.0830	1.94	4.87	14.97	6.94	.13	164.
46.000	-16.22	8.27	.1839	3.97	5.11	17.92	7.20	.08	164.
48.000	-18.02	8.62	.0770	6.08	5.43	20.20	7.57	.12	164.
50.000	-18.01	9.57	.0830	6.93	4.90	21.16	8.33	.19	163.
52.000	-19.66	9.39	-.1482	5.37	6.63	21.63	8.89	.20	162.
54.000	-23.55	9.15	-.1689	3.83	6.06	24.68	8.97	.42	156.
56.000	-26.85	9.98	-.1890	3.42	6.86	27.99	9.79	.03	144.
58.000	-30.67	9.58	.2199	3.27	9.72	32.41	9.29	.31	123.
60.000	-31.60	11.24	.3544	5.80	10.33	34.29	10.03	-.17	86.
62.000	-32.46	13.63	.2634	6.03	9.94	35.00	12.15	-.24	62.
64.000	-33.15	13.73	-.1118	4.54	11.88	35.57	13.44	-.40	49.
66.000	-32.16	13.66	.0086	5.87	9.06	34.18	12.92	.46	49.
68.000	-27.50	17.44	-.1600	4.08	11.65	31.20	15.32	.99	49.
70.000	-25.41	14.03	-.2516	3.34	12.15	28.79	12.99	.61	48.

TABLE I-6. WIND STATISTICAL PARAMETERS

JUNE

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S.D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	2.51	2.44	.4638	1.88	2.00	3.65	2.55	.67	415.
1.000	5.35	4.72	.4954	.88	2.69	6.47	4.14	.68	414.
2.000	3.07	5.08	.2701	-.02	3.75	6.06	3.54	.84	412.
3.000	2.13	6.08	.1229	1.06	4.53	6.91	3.91	1.08	409.
4.000	3.06	6.67	.0655	1.71	5.47	7.95	4.83	1.11	404.
5.000	4.57	7.25	.0572	2.04	6.43	9.21	5.82	1.20	399.
6.000	6.36	8.23	.1103	2.05	7.71	11.00	7.12	1.37	398.
7.000	7.95	9.25	.1709	2.02	9.24	12.95	8.39	1.24	388.
8.000	9.55	10.36	.1748	2.35	10.63	15.03	9.53	1.13	387.
9.000	11.19	11.57	.1965	2.78	12.07	17.31	10.60	1.01	388.
10.000	13..3	12.59	.2215	2.91	13.00	19.36	11.53	.91	383.
11.000	14.93	13.04	.2605	2.98	13.64	21.09	11.94	.74	384.
12.000	16.28	12.78	.2977	3.27	13.23	21.80	11.76	.64	380.
13.000	16.80	11.38	.3263	4.00	12.03	21.31	10.85	.62	376.
14.000	15.21	9.58	.3529	3.99	9.85	18.74	9.21	.49	369.
15.000	12.32	7.58	.2444	3.55	7.72	15.06	7.37	.33	364.
16.000	8.70	5.92	.1552	3.02	5.75	11.01	5.62	.74	341.
17.000	4.62	4.99	.1032	2.26	4.08	7.08	4.22	1.71	319.
18.000	.28	4.28	.1345	1.83	3.12	4.76	2.96	2.04	318.
19.000	-2.94	3.57	.1212	1.27	2.57	4.83	2.49	1.00	313.
20.000	-5.12	3.04	.0408	.90	2.08	5.83	2.57	.20	309.
21.000	-6.69	2.93	.0755	.58	1.93	7.06	2.74	.28	305.
22.000	-7.70	2.65	.0372	.27	1.84	7.97	2.53	-.18	300.
23.000	-8.50	2.80	.0206	-.12	1.84	8.73	2.70	-.22	290.
24.000	-9.12	3.16	-.0543	-.27	2.23	9.45	2.99	-.22	287.
25.000	-9.57	3.35	-.0842	-.15	1.95	9.81	3.22	-.21	276.
26.000	-9.96	3.60	-.0930	-.08	1.79	10.16	3.49	-.18	269.
27.000	-10.25	3.92	-.0637	.01	1.96	10.48	3.78	-.06	232.
28.000	-10.36	4.03	.0877	-.07	1.77	10.58	3.85	-.03	209.
29.000	-10.82	4.77	.1406	.08	2.29	11.20	4.42	.13	167.
30.000	-11.34	4.76	.0490	.12	2.04	11.70	4.31	.02	157.
32.000	-14.56	4.86	-.0749	1.39	2.80	14.91	4.79	.05	144.
34.000	-16.01	5.35	-.0920	1.42	2.75	16.32	5.28	-.28	144.
36.000	-18.38	5.45	-.0571	.58	3.02	18.65	5.38	-.16	145.
38.000	-22.18	5.36	.1446	.49	3.36	22.46	5.25	.03	145.
40.000	-25.91	6.39	.1894	.58	3.65	26.20	6.28	-.19	145.
42.000	-29.67	6.99	-.1242	.41	4.30	29.99	6.98	.20	145.
44.000	-33.15	6.13	-.1053	2.50	5.26	33.66	6.09	-.02	145.
46.000	-35.77	6.75	.1424	4.70	5.17	36.48	6.51	-.34	145.
48.000	-38.50	7.36	.0929	4.73	5.29	39.17	7.26	-.25	144.
50.000	-41.36	8.25	.0216	5.45	6.16	42.22	8.00	.02	142.
52.000	-44.07	8.92	.0796	6.12	6.09	44.95	8.69	-.08	132.
54.000	-46.76	9.41	-.0417	5.38	6.26	47.48	9.39	.10	124.
56.000	-50.38	9.92	-.1146	5.38	6.51	51.09	9.87	.23	117.
58.000	-53.04	11.10	.1542	3.13	7.82	53.71	11.02	.30	90.
60.000	-53.52	12.24	.0233	2.78	10.22	54.47	12.55	.37	62.
62.000	-57.70	14.32	.1882	5.66	14.06	59.59	14.44	-.05	41.
64.000	-55.49	17.34	.2488	8.51	10.03	57.24	16.48	.33	33.
66.000	-52.61	14.41	-.3780	7.18	11.02	54.22	14.32	-.32	32.
68.000	-49.28	18.84	-.0700	5.97	12.72	51.26	18.65	-.09	31.
70.000	-44.92	21.59	.1080	9.20	13.49	48.41	19.95	.07	29.

TABLE I-7. WIND STATISTICAL PARAMETERS

JULY

TATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S.D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	2.11	1.92	.5660	1.92	1.68	3.21	2.08	.75	367.
1.000	5.59	3.98	.2890	1.30	2.11	6.25	3.76	.58	373.
2.000	4.33	4.03	.2619	2.12	3.46	6.45	3.21	.47	374.
3.000	2.76	4.78	.1697	3.78	3.74	6.80	3.53	.76	374.
4.000	1.89	5.36	.1471	4.17	4.13	7.24	3.78	.94	371.
5.000	1.96	5.70	.1885	4.29	4.04	7.71	4.32	1.22	369.
6.000	3.13	6.10	.1483	4.38	5.13	8.36	4.74	1.14	366.
7.000	4.42	6.31	.1392	4.92	5.84	9.42	5.36	1.23	355.
8.000	6.00	7.03	.1503	5.73	6.49	11.12	6.05	.93	350.
9.000	7.38	7.69	.0967	6.81	7.25	12.97	6.64	.73	349.
10.000	8.66	8.40	.0860	8.31	8.18	15.13	7.23	.57	341.
11.000	9.62	9.09	.0858	9.88	9.01	17.03	7.97	.50	338.
12.000	10.09	9.27	.0773	10.66	9.62	17.86	8.65	.53	334.
13.000	9.91	8.76	.0954	10.99	9.22	17.56	8.50	.46	333.
14.000	8.78	7.23	.1832	9.69	7.97	15.28	7.29	.52	330.
15.000	6.77	5.94	.2193	7.48	6.52	11.94	6.07	.53	329.
16.000	3.34	4.62	.2165	5.05	5.01	8.02	4.32	.70	322.
17.000	-.62	3.48	.2350	3.12	3.75	5.36	2.73	1.05	305.
18.000	-3.96	2.85	.2846	1.99	3.00	5.56	2.41	.33	305.
19.000	-6.51	2.54	.1979	1.49	2.23	7.12	2.31	.15	302.
20.000	-8.42	2.12	.1714	1.01	1.94	8.72	2.06	.00	301.
21.000	-9.90	2.16	.0712	.81	2.07	10.17	2.09	.01	296.
22.000	-11.21	2.19	.0478	.51	1.88	11.39	2.16	.69	293.
23.000	-12.36	2.34	-.0449	.36	1.79	12.50	2.31	.36	286.
24.000	-13.42	2.67	-.0650	.31	1.99	13.58	2.63	-.11	281.
25.000	-14.34	2.73	-.0271	.26	2.02	14.49	2.68	-.03	266.
26.000	-15.26	2.86	-.0748	.38	2.10	15.41	2.85	.23	259.
27.000	-16.12	3.43	-.1596	.44	2.34	16.30	3.41	.22	238.
28.000	-16.73	3.41	-.1880	.02	1.95	16.85	3.37	.22	189.
29.000	-17.49	3.71	-.0954	-.04	2.44	17.67	3.63	.01	173.
30.000	-18.27	3.38	-.1203	.19	2.09	18.40	3.32	-.11	158.
32.000	-22.68	3.62	-.1758	1.62	2.74	22.90	3.64	-.15	139.
34.000	-23.71	3.45	.0008	1.35	3.06	23.95	3.42	.01	140.
36.000	-26.52	4.35	-.0731	1.03	3.[illegible]	25.76	4.32	-.03	140.
38.000	-29.23	4.81	-.1289	1.18	4.27	29.58	4.74	-.21	142.
40.000	-33.29	4.27	.0572	-.08	4.25	33.55	4.33	-.05	142.
42.000	-30.10	4.87	.0443	[illegible]	[illegible]	[illegible]	4.87	[illegible]	[illegible]
44.000	-42.09	5.35	.0585	2.13	5.87	42.56	5.25	-.21	142.
46.000	-44.74	6.25	.1210	4.62	5.34	45.30	6.15	.23	142.
48.000	-47.31	6.55	.1203	4.97	6.19	47.98	6.48	.18	142.
50.000	-51.36	7.16	.1017	5.79	5.95	52.04	7.05	-.01	141.
52.000	-53.83	8.32	.2111	7.11	7.00	54.78	8.07	.04	136.
54.000	-54.78	9.04	.1272	7.42	7.32	55.78	8.80	-.24	129.
56.000	-57.97	10.73	.1770	5.20	9.87	59.10	10.30	.03	122.
58.000	-59.85	13.02	.2448	1.75	12.31	61.18	12.69	-.06	105.
60.000	-60.03	17.21	.1480	2.25	13.50	61.68	16.71	-.25	76.
62.000	-62.04	20.10	.0455	5.62	12.38	63.59	19.77	.08	61.
64.000	-56.71	21.39	.1401	7.79	11.35	58.56	20.77	.13	54.
66.000	-45.11	23.71	.1581	10.43	14.17	49.25	21.80	.04	51.
68.000	-35.08	21.35	-.0473	9.30	21.22	42.90	19.30	.45	49.
70.000	-25.92	22.64	.0388	5.10	25.12	37.96	19.59	.58	46.

TABLE 1-8. WIND STATISTICAL PARAMETERS

AUGUST

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S.D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	1.76	2.10	.4665	1.67	1.69	2.99	2.06	.51	409.
1.000	4.70	4.21	.2539	1.09	2.38	5.77	3.66	.71	414.
2.000	3.19	4.25	.2367	1.68	3.44	5.78	3.09	.68	416.
3.000	1.56	4.78	.1588	3.07	4.15	6.32	3.46	.84	415.
4.000	.82	5.13	.1588	3.50	4.22	6.62	3.64	1.21	414.
5.000	1.22	5.82	.1748	3.49	4.67	7.20	4.17	1.26	412.
6.000	2.44	6.47	.1412	3.49	5.40	8.10	4.83	1.20	411.
7.000	4.08	6.93	.1166	3.73	5.93	9.32	5.18	1.18	403.
8.000	5.75	7.31	.1222	4.37	6.71	10.75	5.92	1.31	402.
9.000	7.50	8.14	.0441	5.15	7.26	12.56	6.63	1.03	404.
10.000	9.46	9.24	-.0131	6.50	8.24	[illegible]	7.71	.97	[illegible]
11.000	10.86	10.04	-.0480	7.77	9.13	17.09	8.37	.76	389.
12.000	11.60	10.07	-.0501	8.61	9.39	18.12	8.36	.56	389.
13.000	11.63	9.26	-.0584	8.52	9.02	17.69	7.86	.46	387.
14.000	10.51	7.80	.0053	7.58	8.00	15.66	6.88	.40	385.
15.000	8.15	6.69	.0828	5.74	6.19	12.30	5.56	.32	383.
16.000	4.94	5.62	.0477	3.76	4.52	8.44	4.39	.82	361.
17.000	1.28	4.65	-.0691	2.07	3.37	5.43	3.06	1.44	340.
18.000	-2.07	3.61	-.0794	1.10	2.58	4.49	2.23	1.16	340.
19.000	-4.78	2.97	-.0179	.64	1.93	5.55	2.24	.49	335.
20.000	-6.63	2.72	-.0490	.65	1.67	6.95	2.52	.32	331.
21.000	-8.15	2.62	-.0465	.64	1.83	8.42	2.48	.23	322.
22.000	-9.39	2.63	-.1271	.49	1.72	9.57	2.59	.22	316.
23.000	-10.61	2.69	-.0822	.35	1.67	10.76	2.63	.31	302.
24.000	-11.69	2.82	-.0410	.25	1.92	11.87	2.74	-.21	293.
25.000	-12.85	2.95	-.0016	.21	1.83	13.00	2.86	-..6	279.
26.000	-13.73	3.13	-.0372	.30	1.98	13.91	3.01	.02	270.
27.000	-14.45	3.13	-.1435	.24	2.31	14.63	3.16	.08	253.
28.000	-14.93	3.21	-.2258	-.13	1.92	15.06	3.20	-.06	216.
29.000	-15.80	3.85	-.2320	.09	2.36	16.00	3.76	-.22	184.
30.000	-16.44	3.73	-.1503	.52	2.16	16.58	3.75	.06	166.
32.000	-20.93	3.57	[illegible]	1.04	2.79	21.19	3.55	-.02	125.
34.000	-21.71	4.96	.2729	1.17	[illegible]	21.92	4.88	-.08	126.
36.000	-23.34	5.34	.0641	.72	3.07	23.56	5.30	-.26	128.
38.000	-25.44	6.10	-.0518	.17	3.89	25.74	6.07	.10	130.
40.000	-27.30	7.53	.0218	.10	4.39	27.65	7.51	-.11	132.
42.000	-30.51	7.68	.0360	-.01	4.60	30.87	7.59	.38	132.
44.000	-34.58	8.42	-.1257	1.02	4.68	34.91	8.40	.53	133.
46.000	-36.65	7.63	-.0488	2.53	6.17	37.26	7.60	.01	133.
48.000	-37.52	9.74	-.0938	4.78	7.50	38.62	9.45	-.15	133.
50.000	-38.48	10.98	-.2193	6.08	7.71	39.80	10.64	-.20	133.
52.000	-37.82	13.18	-.1319	6.07	8.79	39.47	12.64	-.44	132.
54.000	-37.13	14.25	.0231	6.34	9.36	39.02	13.64	.02	131.
56.000	-36.07	17.96	.0825	5.18	10.02	38.30	16.81	.12	129.
58.000	-33.72	17.78	-.0014	4.34	10.48	36.15	16.55	.46	115.
60.000	-32.06	17.75	.0782	2.06	12.60	35.07	16.55	.25	85.
62.000	-32.40	19.15	.3019	1.15	13.68	35.85	17.77	-.17	67.
64.000	-24.69	19.63	.1932	3.29	15.19	30.66	17.04	.50	56.
66.000	-16.35	19.05	.0879	1.88	19.21	26.91	16.44	.61	54.
68.000	-11.01	23.18	.3064	1.46	20.89	27.11	18.72	.70	54.
70.000	-1.94	21.64	.2588	2.87	16.06	23.33	13.42	1.18	51.

TABLE I-9. WIND STATISTICAL PARAMETERS

SEPTEMBER

ATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S.D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	1.62	2.21	.5899	1.24	1.75	2.63	2.27	1.06	335.
1.000	3.62	4.81	.5515	.80	2.53	5.39	3.77	.72	339.
2.000	1.57	5.77	.3073	1.05	4.07	6.38	3.55	.89	337.
3.000	1.60	6.17	.2013	2.09	4.96	7.35	3.93	.87	336.
4.000	2.86	7.14	.1300	2.08	6.36	8.74	5.22	.93	333.
5.000	4.68	8.14	.1065	1.79	7.51	10.42	6.24	1.07	333.
6.000	6.50	8.63	.1006	1.77	8.88	12.11	7.19	.88	331.
7.000	7.98	9.37	.1135	1.58	10.18	13.86	8.07	.85	327.
8.000	9.84	10.57	.1835	1.94	11.30	15.89	9.33	.91	323.
9.000	11.70	11.87	.2424	2.50	12.29	18.05	10.42	.82	323.
10.000	14.04	12.85	.2756	3.31	13.14	20.37	11.42	.72	311.
11.000	16.25	13.63	.3319	3.85	13.32	22.35	11.90	.61	299.
12.000	17.74	13.31	.3103	4.54	13.22	23.38	11.84	.54	296.
13.000	18.34	12.49	.2843	4.63	11.83	23.01	11.15	.56	294.
14.000	17.08	10.96	.2800	4.09	9.93	20.73	9.85	.67	297.
15.000	14.43	9.20	.2393	3.35	7.69	17.25	8.07	.72	237.
16.000	10.21	7.20	.1368	1.89	5.89	12.50	6.15	.78	282.
17.000	6.04	5.88	.0692	.83	4.33	8.25	4.72	1.02	261.
18.000	2.07	5.00	.0802	.24	3.45	5.42	3.42	1.81	256.
19.000	-.61	4.29	.0643	-.11	2.62	4.47	2.36	.84	255.
20.000	-2.16	3.72	.0580	-.07	2.23	4.31	2.20	.35	255.
21.000	-3.23	3.47	.1420	-.05	2.06	4.67	2.19	.45	251.
22.000	-3.98	3.35	.1457	-.03	1.90	4.99	2.42	.45	254.
23.000	-4.64	3.59	.0438	-.03	1.94	5.57	2.67	.41	251.
24.000	-5.10	4.05	.0246	.02	2.04	6.11	3.03	.36	245.
25.000	-5.44	4.19	.0102	.14	2.01	6.35	3.29	.35	231.
26.000	-5.69	4.22	.0757	.21	2.13	6.53	3.49	.21	229.
27.000	-5.69	4.52	.0735	.21	2.09	6.74	3.43	.47	209.
28.000	-5.62	4.87	.0835	.24	1.96	6.80	3.58	.39	194.
29.000	-5.55	5.36	.0742	.32	2.56	7.22	3.72	.60	151.
30.000	-5.55	5.42	.0935	.10	2.16	7.01	3.95	.82	135.
32.000	-9.04	5.80	.1580	1.46	2.87	10.01	5.03	.52	111.
34.000	-7.35	5.84	.1810	2.60	3.33	9.27	4.45	.36	111.
36.000	-6.06	6.75	.1430	1.06	3.33	8.28	5.07	.58	112.
38.000	-6.80	7.35	-.0398	-.13	4.17	9.39	5.39	.51	112.
40.000	-8.31	8.47	-.0810	-.73	4.00	10.96	6.05	.49	113.
42.000	-9.74	8.52	.0726	.50	[illegible]	12.12	3.77	.30	[illegible]
44.000	-10.59	8.82	-.0290	1.33	5.93	13.16	7.30	.47	113.
46.000	-10.10	10.47	-.0130	2.60	5.46	13.75	7.64	.78	113.
48.000	-9.38	11.00	-.0924	3.55	5.62	12.95	8.19	.93	112.
50.000	-7.03	11.33	-.0344	4.33	6.78	13.28	8.07	.95	111.
52.000	-4.97	12.70	.0056	4.44	6.81	13.28	8.63	1.05	107.
54.000	-1.85	12.65	-.1766	5.94	6.23	13.65	7.06	.81	104.
56.000	2.75	11.12	-.2022	5.08	7.52	13.08	6.40	.14	99.
58.000	4.59	12.45	.0026	1.80	8.07	14.20	6.38	.60	86.
60.000	4.56	15.02	.0640	2.55	8.38	15.81	8.36	.55	68.
62.000	7.77	15.00	-.1038	5.83	7.52	16.70	9.63	.76	44.
64.000	12.61	12.69	-.0533	6.51	8.79	19.22	8.13	.24	41.
66.000	15.09	12.13	-.0577	5.69	9.80	20.97	7.65	.23	40.
68.000	16.03	10.87	-.0277	4.23	9.21	19.49	9.77	.55	39.
70.000	19.64	12.98	.2132	-1.21	11.05	23.00	12.04	.39	39.

TABLE I-10. WIND STATISTICAL PARAMETERS

OCTOBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S.D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	1.10	2.13	.5674	.57	1.75	2.05	2.22	1.37	356.
1.000	2.04	5.07	.5497	.07	3.19	4.90	4.00	1.19	359.
2.000	.16	6.44	.4039	-.52	5.21	7.24	4.04	.48	361.
3.000	.73	6.98	.2625	-.16	6.55	8.35	4.72	.76	361.
4.000	2.40	7.83	.1609	-.33	8.08	10.09	5.50	.78	356.
5.000	3.92	9.03	.1072	-.69	10.00	12.08	7.15	.98	355.
6.000	5.70	10.33	.1651	-1.22	11.72	14.03	8.38	1.29	356.
7.000	6.75	11.72	.2158	-1.18	13.39	16.28	9.90	.91	353.
8.000	7.93	13.45	.2695	-1.01	15.18	18.55	11.42	.90	350.
9.000	9.55	14.96	.2840	-.78	16.33	20.60	12.54	.88	350.
10.000	11.69	15.67	[illegible]	.04	[illegible]	[illegible]	13.07	[illegible]	[illegible]
11.000	13.76	16.43	.3917	.61	16.70	23.47	13.67	.81	336.
12.000	15.38	16.16	.4359	1.02	16.20	23.70	14.09	.95	335.
13.000	15.64	15.03	.4430	1.31	14.05	22.47	12.81	.78	334.
14.000	14.84	12.81	.3779	1.22	11.62	20.04	10.89	.66	330.
15.000	13.21	10.74	.3807	1.11	9.30	17.06	9.29	.71	328.
16.000	10.77	8.35	.3553	.52	6.90	13.37	7.40	.58	316.
17.000	7.86	6.76	.3796	.25	5.70	10.20	5.98	.84	294.
18.000	4.78	5.62	.3265	-.26	4.69	7.40	4.65	1.00	292.
19.000	2.66	4.47	.3193	-.45	3.52	5.45	3.14	.89	280.
20.000	1.40	3.98	.3188	-.62	3.02	4.54	2.58	1.02	278.
21.000	.77	3.74	.2186	-.55	2.98	4.24	2.40	.86	274.
22.000	.77	3.72	.1236	-.64	2.82	4.14	2.36	1.10	276.
23.000	1.16	3.68	.0912	-.68	2.41	3.96	2.32	1.28	262.
24.000	1.58	4.21	-.0154	-.61	2.53	4.51	2.57	.94	256.
25.000	2.57	4.97	.0045	-.59	2.47	5.15	3.34	1.63	248.
26.000	3.59	5.48	.0027	-.41	2.43	5.93	3.70	.81	244.
27.000	4.46	6.07	-.0128	-.27	2.51	6.71	4.24	.83	220.
28.000	5.81	6.59	.0397	-.14	2.63	7.70	4.97	.78	211.
29.000	6.60	7.14	.0697	-.02	2.81	8.51	5.46	.75	163.
30.000	8.03	7.54	.0293	.05	2.86	9.55	6.18	.60	157.
32.000	11.70	10.29	[illegible]	1.77	3.03	13.47	9.03	1.01	139.
34.000	15.27	10.87	.2372	3.04	5.12	17.09	9.74	.83	139.
36.000	19.74	11.16	.3955	2.89	5.41	20.91	10.70	.62	139.
38.000	23.33	13.08	.4642	2.17	5.66	24.27	12.75	.34	139.
40.000	26.38	14.48	.2461	.74	5.48	27.24	13.92	.20	140.
42.000	28.73	16.24	.0407	.94	5.66	30.01	14.87	.05	140.
44.000	31.20	16.03	-.0037	1.68	6.09	32.21	15.25	-.16	140.
46.000	35.02	16.24	-.0444	3.90	7.41	36.32	15.51	-.27	139.
48.000	39.49	16.64	.1350	5.95	8.41	40.99	16.16	-.58	139.
50.000	42.13	18.27	.1543	7.22	8.19	43.92	17.26	-.42	138.
52.000	45.35	18.06	.1817	7.76	8.60	46.95	17.76	-.33	135.
54.000	47.65	17.94	.3327	8.12	8.82	49.02	18.25	-.34	132.
56.000	50.09	17.10	.3883	8.59	8.72	51.44	17.47	-.38	131.
58.000	50.39	18.01	.4285	7.76	9.83	51.80	18.35	-.26	124.
60.000	52.31	18.43	.4057	8.18	10.67	53.94	18.60	.29	90.
62.000	53.56	20.42	.6356	6.43	11.54	54.98	20.86	.19	65.
64.000	54.17	23.12	.7104	7.67	12.39	55.68	24.07	.47	53.
66.000	51.85	27.18	.5963	4.94	14.79	53.75	27.88	.45	53.
68.000	47.25	32.81	.2508	3.92	15.54	51.04	30.88	.28	52.
70.000	45.35	30.33	.0091	-.05	15.76	49.38	27.91	.14	48.

TABLE I-11. WIND STATISTICAL PARAMETERS

NOVEMBER

.TION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S.D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	.57	2.01	.3218	.18	1.67	1.91	2.03	1.56	377.
1.000	1.62	5.01	.4048	-.28	2.93	4.58	3.95	1.51	378.
2.000	1.01	7.04	.4260	-.64	5.40	7.02	4.34	.69	377.
3.000	3.74	7.63	.3050	-1.14	7.76	9.99	5.80	.78	377.
4.000	6.46	8.70	.3248	-1.60	9.32	12.51	7.07	.66	367.
5.000	8.81	10.15	.2550	-2.05	11.54	15.53	8.74	.71	365.
6.000	10.86	11.43	.2697	-2.49	13.60	18.43	9.97	.62	362.
7.000	12.60	12.39	.3280	-2.67	16.02	21.29	11.05	.77	361.
8.000	14.15	14.04	.3631	-2.78	17.87	23.81	12.51	1.10	356.
9.000	15.02	[illegible].95	.3770	-2.87	19.26	26.05	13.16	.83	353.
10.000	17.58	15.15	.3799	-2.83	19.91	27.67	13.28	.73	347.
11.000	19.08	15.72	.3845	-2.66	19.58	29.76	13.15	.55	340.
12.000	20.21	15.20	.4347	-1.73	18.15	28.51	12.57	.65	336.
13.000	20.05	13.71	.4146	-.91	16.00	26.95	10.91	.51	331.
14.000	[illegible]	12.14	[illegible]	[illegible]	[illegible]	[illegible]	9.81	[illegible]	[illegible]
15.000	17.42	10.67	.3425	-.26	11.13	21.47	8.94	.31	315.
16.000	14.78	9.36	.3483	-.84	9.18	18.04	8.08	.40	292.
17.000	11.79	7.94	.3202	-.95	7.44	14.55	6.81	.54	275.
19.000	9.03	7.15	.3080	-.95	5.95	11.42	6.20	1.45	275.
19.000	6.42	6.29	.3282	-1.03	4.75	8.76	5.25	1.70	264.
20.000	4.85	5.87	.2946	-1.17	3.97	7.40	4.50	1.61	257.
21.000	3.72	6.09	.2096	-1.16	3.56	6.70	4.47	1.54	242.
22.000	3.30	6.45	.0967	-1.24	3.43	6.66	4.61	1.38	241.
23.000	3.38	6.89	.0746	-1.35	2.73	6.71	4.79	1.54	227.
24.000	4.07	7.73	.1154	-1.29	2.99	7.65	5.32	1.63	217.
25.000	4.83	8.55	.1766	-1.14	3.05	8.47	5.02	1.91	211.
26.000	5.97	9.27	.2282	-1.13	3.17	9.68	6.24	1.12	209.
27.000	6.51	10.15	.3361	-1.16	3.32	10.75	6.46	1.11	180.
28.000	8.17	11.63	.4435	-1.26	3.60	12.74	7.34	1.16	167.
29.000	10.18	13.07	.5761	-1.25	4.00	14.62	8.79	.96	124.
30.000	11.88	14.02	.5574	-.97	4.38	16.15	9.80	.87	117.
32.000	20.05	15.95	.5868	1.99	5.63	21.79	14.72	.75	99.
34.000	24.41	17.33	.5526	2.79	6.23	25.93	16.41	.70	99.
36.000	29.23	16.78	.5215	3.65	7.42	30.62	16.31	.38	101.
38.000	33.92	18.38	.6656	2.57	7.36	35.15	17.69	.30	101.
40.000	37.76	19.32	.5942	1.65	7.52	38.74	19.92	.30	101.
42.000	40.58	19.07	.5222	1.57	7.10	41.53	19.03	.16	100.
44.000	45.81	19.82	.4125	2.27	7.98	46.58	19.74	.08	100.
46.000	51.36	21.79	.3916	3.79	9.45	52.32	21.88	-.12	100.
48.000	55.88	23.62	.3994	6.67	11.59	57.35	23.86	-.03	100.
50.000	60.82	26.09	.3974	8.36	13.42	62.61	26.62	-.07	99.
52.000	63.97	27.54	.4548	8.73	15.14	66.21	27.74	-.08	98.
54.000	65.87	27.58	.3958	8.88	14.65	68.88	27.93	-.20	97.
56.000	67.78	26.63	.3155	7.45	14.36	69.68	26.61	-.37	93.
58.000	66.33	26.29	.2997	4.33	16.48	68.54	26.08	-.35	89.
60.000	59.57	27.74	.3832	1.86	18.31	62.91	26.31	-.23	70.
62.000	59.65	27.63	.5009	.59	21.46	63.43	27.35	.00	46.
64.000	55.70	27.12	.6446	-3.02	19.57	59.46	26.14	.50	37.
66.000	54.45	27.08	.6277	-3.28	26.06	61.06	25.27	.10	36.
68.000	54.66	26.08	.5110	.51	23.59	60.08	24.44	.00	36.
70.000	53.62	23.04	.5227	-2.04	23.51	59.15	21.10	.51	34.

TABLE I-12. WIND STATISTICAL PARAMETERS

DECEMBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S.D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	1.11	2.56	.9712	.03	1.92	2.27	2.52	1.61	350.
1.000	1.23	5.25	.4316	-.93	3.03	4.77	4.04	1.38	352.
2.000	.38	8.24	.2684	-2.73	5.89	9.14	5.13	.65	351.
3.000	3.64	9.08	.0433	-3.19	7.89	11.13	6.63	.69	347.
4.000	6.19	9.70	.0760	-4.07	9.69	13.27	8.15	.59	341.
5.000	8.22	11.03	.1173	-4.97	11.38	15.60	9.98	.80	332.
6.000	10.21	13.12	.1751	-5.50	12.90	18.44	11.51	.92	331.
7.000	11.77	15.32	.2563	-6.09	14.90	21.12	13.61	1.07	326.
8.000	13.32	16.85	.2253	-6.75	16.47	23.40	15.16	1.04	316.
9.000	14.50	17.84	.2545	-7.59	17.38	25.23	15.83	.94	311.
10.000	15.59	17.87	.2522	-7.59	16.17	25.70	15.09	.72	305.
11.000	16.42	17.43	.2837	-7.59	15.82	26.15	14.00	.63	297.
12.000	18.07	16.40	.3363	-7.04	15.34	26.13	14.02	.76	295.
13.000	18.23	14.27	.2693	-5.52	13.08	24.24	12.21	.61	289.
14.000	17.66	12.03	.2731	-4.50	11.30	22.21	10.52	.44	277.
15.000	15.97	10.06	.3127	-3.73	9.28	19.55	8.59	.59	271.
16.000	13.25	8.41	.3254	-3.09	7.54	16.21	7.05	.68	255.
17.000	10.83	7.12	.3238	-2.68	6.28	13.40	5.90	.95	238.
18.000	8.24	6.26	.2441	-2.61	5.11	10.72	4.99	1.33	238.
19.000	5.59	5.55	.1932	-2.64	4.20	8.30	4.20	1.28	226.
20.000	3.44	4.92	.1805	-2.78	3.55	6.64	3.49	.79	218.
21.000	1.63	5.14	.0874	-2.56	3.40	6.02	3.28	.71	210.
22.000	.52	6.09	-.0182	-2.52	3.93	6.55	4.01	1.20	208.
23.000	.62	6.89	.1053	-2.56	3.78	7.03	4.38	1.99	206.
24.000	.81	7.48	.1409	-2.81	3.90	7.75	4.40	1.00	199.
25.000	1.62	8.89	.1444	-2.89	4.27	8.69	5.69	1.04	196.
26.000	3.12	10.55	.1828	-2.76	4.47	9.93	7.04	1.05	189.
27.000	4.99	11.97	.3581	-2.55	4.97	11.43	8.25	1.00	158.
28.000	8.03	13.50	.4149	-2.46	5.61	13.89	9.51	.92	143.
29.000	10.45	14.83	.4761	-2.16	6.32	16.23	10.37	1.00	102.
30.000	13.85	16.00	.5196	-1.48	6.80	19.10	11.38	.90	98.
32.000	12.87	21.23	.6253	-2.34	7.42	21.88	14.00	.80	142.
34.000	20.66	24.50	.6840	-1.05	8.81	29.30	15.63	.51	143.
36.000	28.66	25.74	.7000	-.13	9.80	35.73	17.31	.11	144.
38.000	37.02	26.54	.6913	.07	10.53	42.70	18.95	-.13	144.
40.000	43.95	26.37	.6860	.35	11.28	48.78	19.28	-.32	144.
42.000	50.11	27.07	.5720	3.43	13.29	55.02	20.04	-.52	144.
44.000	57.63	27.50	.4416	6.39	14.22	62.63	19.84	-.69	144.
46.000	64.73	27.95	.3451	9.57	16.10	70.04	20.27	-.68	144.
48.000	70.51	28.56	.3387	12.84	16.79	75.89	21.70	-.46	143.
50.000	73.94	29.62	.2949	14.41	18.13	79.41	23.89	-.25	142.
52.000	75.62	30.96	.2607	15.44	18.46	81.11	25.93	-.23	141.
54.000	77.17	31.75	.2244	15.11	18.57	82.09	28.16	-.23	140.
56.000	78.83	31.51	.1994	12.03	18.45	82.44	29.86	-.28	135.
58.000	78.38	31.65	.2741	11.21	21.12	82.31	30.62	-.07	121.
60.000	75.95	33.96	.3312	8.85	24.06	80.78	32.33	.01	87.
62.000	73.71	31.37	.3101	3.57	28.78	79.15	31.26	-.35	48.
64.000	72.26	29.19	.5334	9.03	22.48	75.79	30.06	-.43	39.
66.000	69.46	30.01	.4224	6.65	23.29	73.37	30.26	-.32	38.
68.000	69.20	31.20	.2920	4.05	25.52	73.75	31.19	-.39	36.
70.000	68.55	32.93	.3178	1.09	25.67	73.32	32.34	-.06	34.

TABLE I-13. WIND STATISTICAL PARAMETERS

ANNUAL

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN U M/S	S.D. U M/S	R(U,V)	MEAN V M/S	S.D. V M/S	MEAN WS M/S	S.D. WS M/S	SKEW WS	NOBS
.705	1.82	2.63	.4535	.95	2.02	2.88	2.63	1.15	4662.
1.000	3.62	5.43	.4377	.18	3.05	5.76	4.34	1.03	4702.
2.000	2.25	6.60	.3088	-.49	5.21	7.52	4.41	.90	4692.
3.000	3.29	7.34	.1068	-.29	6.90	8.96	5.67	1.23	4672.
4.000	5.02	8.37	.0446	-.52	8.39	10.80	7.02	1.13	4621.
5.000	6.76	9.54	.0316	-.81	9.99	12.83	8.53	1.14	4576.
6.000	8.58	10.69	.0594	-1.01	11.40	14.92	9.82	1.09	4554.
7.000	10.23	11.84	.1025	-1.17	12.89	17.09	10.98	1.06	4478.
8.000	12.00	13.15	.1371	-1.04	14.22	19.29	12.18	1.05	4415.
9.000	13.80	14.33	.1591	-.91	15.43	~~21.55~~	13.06	.94	4397.
10.000	15.73	14.96	.1707	-.52	16.02	23.47	13.32	.80	4312.
11.000	17.42	15.14	.1736	-.06	16.07	24.81	13.27	.73	4245.
12.000	18.62	14.52	.1665	.55	15.31	25.08	12.79	.71	4206.
13.000	18.67	13.06	.1392	1.13	13.62	23.97	11.46	.62	4153.
14.000	17.58	11.44	.1022	1.28	11.47	21.72	10.07	.50	4090.
15.000	15.41	10.07	.0834	1.12	9.41	18.67	8.95	.52	4055.
16.000	12.37	8.98	.0527	.66	7.64	15.10	8.04	.66	3825.
17.000	8.95	8.14	.0098	.24	6.07	11.64	6.92	.82	3593.
18.000	5.52	7.68	-.0299	-.04	4.95	8.98	5.77	1.23	3581.
19.000	2.65	7.16	-.0556	-.28	4.04	7.35	4.54	1.47	3508.
20.000	.42	6.75	-.1157	-.46	3.33	6.50	3.84	1.40	3457.
21.000	-1.24	6.67	-.1392	-.52	3.01	6.43	3.74	1.26	3355.
22.000	-2.26	6.93	-.1113	-.59	2.91	6.75	4.05	1.21	3308.
23.000	-2.70	7.45	-.0708	-.66	2.73	7.18	4.38	1.11	3197.
24.000	-2.96	8.26	-.0318	-.69	2.96	7.97	4.78	.99	3116.
25.000	-2.86	9.21	.0332	-.61	3.06	8.65	5.29	1.03	3026.
26.000	-2.59	10.16	.0646	-.47	3.17	9.37	5.70	.96	2944.
27.000	-2.27	11.20	.0757	-.39	3.31	10.22	6.11	.79	2610.
28.000	-1.13	12.40	.1468	-.43	3.50	11.03	6.77	.93	2373.
29.000	-.88	13.85	.1398	-.36	3.77	12.30	7.46	.89	1838.
30.000	.26	15.21	.1268	-.23	3.90	13.35	8.30	.98	1723.
32.000	1.86	18.75	.2049	.77	5.00	16.64	10.20	.92	1682.
34.[illegible]	[illegible]	[illegible]	[illegible]	1.23	[illegible]	[illegible]	[illegible]	.91	[illegible]
36.000	6.61	24.96	.3443	1.02	6.32	22.62	14.02	.77	1693.
38.000	8.03	28.50	.3100	.56	7.03	25.82	16.14	.74	1703.
40.000	8.58	31.46	.2589	.18	7.71	28.56	17.54	.66	1707.
42.000	8.54	34.29	.2551	1.04	8.87	31.30	18.69	.57	1706.
44.000	9.19	37.49	.2432	2.89	10.00	34.70	19.87	.52	1706.
46.000	10.68	40.70	.2515	5.12	11.07	38.16	21.53	.59	1704.
48.000	12.13	43.40	.2847	6.76	11.40	40.97	22.97	.61	1700.
50.000	12.84	45.55	.2762	7.74	12.09	43.12	24.24	.64	1689.
52.000	13.80	46.84	.2790	8.05	12.34	44.38	25.15	.61	1660.
54.000	14.68	48.28	.2959	8.04	12.46	45.88	25.75	.63	1611.
56.000	15.49	50.13	.2636	7.58	12.52	47.73	26.27	.51	1540.
58.000	17.08	50.98	.2856	6.51	13.80	48.93	26.94	.49	1357.
60.000	18.00	51.93	.2563	5.53	15.53	50.18	27.87	.50	[illegible]
62.000	15.99	54.20	.1856	5.68	16.00	51.61	28.66	.36	664.
64.000	18.00	53.88	.15[illegible]	5.86	15.03	50.85	30.10	.53	558.
66.000	20.32	52.06	.0449	4.29	16.46	49.69	30.80	.64	540.
68.000	20.92	49.61	-.0077	2.54	17.25	47.22	31.28	.64	526.
70.000	21.34	45.89	-.0695	.33	17.70	44.62	29.81	.77	503.

TABLE II-1. THERMODYNAMIC STATISTICAL PARAMETERS

JANUARY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1021.8000	6.6371	-.22	275.19	7.24	-.10	1292.0000	40.8100	.21	318.	318.	318.
.705	936.2300	5.2401	-.26	275.60	4.70	.02	1182.0000	23.5300	.10	333.	333.	333.
1.000	904.4000	5.2098	-.33	279.43	4.35	.00	1126.0000	18.7700	.18	350.	350.	350.
2.000	800.5300	5.2237	-.41	276.48	5.23	-.38	1008.0000	16.3200	.46	358.	358.	359.
3.000	707.0100	5.8049	-.39	272.05	5.24	-.80	904.6000	12.4800	.90	358.	358.	358.
4.000	622.7800	6.4824	-.55	266.28	5.12	-.84	814.3000	9.4810	.71	358.	358.	358.
5.000	547.1300	6.8759	-.61	259.74	4.85	-.76	733.5000	7.1320	.20	356.	356.	356.
6.000	479.4000	7.0937	-.68	252.63	4.58	-.70	650.3300	5.7040	-.05	353.	353.	353.
7.000	418.0100	7.0162	-.67	245.35	4.49	-.53	593.4000	5.2520	-.19	349.	349.	349.
8.000	363.1800	6.9720	-.69	237.63	4.28	-.35	532.3000	5.0570	-.49	342.	342.	342.
9.000	313.9600	6.6654	-.60	229.98	3.83	-.09	475.6000	5.9900	-1.02	343.	343.	343.
10.000	270.1400	6.1791	-.51	222.96	3.41	.19	422.1000	8.2970	-1.50	343.	343.	343.
11.000	231.5700	5.3973	-.28	217.85	3.90	.67	370.4000	11.0600	-1.18	341.	341.	341.
12.000	197.9000	4.5191	-.08	214.75	5.59	.32	321.3000	12.4100	-.51	339.	339.	333.
13.000	168.8400	3.6734	.08	214.13	5.32	-.22	274.9000	10.3400	-.05	336.	333.	333.
14.000	144.0500	2.9601	.17	213.24	4.10	-.24	235.4000	7.7990	.16	332.	332.	332.
15.000	122.7100	2.3501	.14	211.23	3.71	.05	202.5000	6.4650	.17	331.	331.	331.
16.000	104.4100	1.8377	.09	209.31	3.96	-.05	173.9000	5.5770	.25	330.	330.	330.
17.000	88.7710	1.4143	.04	208.50	4.33	-.09	148.4000	4.7460	.29	321.	321.	321.
18.000	75.4150	1.0906	.01	208.50	4.18	-.17	126.1000	3.5950	.23	317.	317.	317.
19.000	64.1380	.8750	-.01	209.46	3.73	-.43	106.7000	2.5260	.30	309.	309.	309.
20.000	54.5740	.7493	-.10	210.74	3.44	-.68	90.2400	1.7790	.24	302.	302.	302.
21.000	46.5300	.6621	-.23	212.48	2.95	-.28	76.3000	1.2820	.10	245.	245.	245.
22.000	39.7000	.5835	-.32	213.81	2.81	-.50	64.6900	1.0340	.02	238.	238.	238.
23.000	33.9070	.5329	-.36	215.13	2.94	-.58	54.9100	.8679	-.12	236.	236.	236.
24.000	28.9260	.5129	-.63	215.88	3.72	-.68	46.6800	.7491	-.22	273.	273.	273.
25.000	24.7510	.4784	-.79	216.64	3.77	-.74	39.7700	.6296	-.29	263.	263.	263.
26.000	21.1930	.4346	-.75	217.96	3.77	-.57	33.8800	.5507	-.58	256.	256.	256.
27.000	18.2270	.3670	-.67	219.61	3.67	.13	28.9200	.5002	-.71	205.	205.	205.
28.000	15.6410	.3388	-.63	220.93	4.14	.42	24.6700	.4811	-1.06	195.	195.	195.
29.000	13.4370	.3324	-.66	221.99	4.04	.03	21.0900	.4145	-1.00	139.	139.	139.
30.000	11.5280	.3271	-.64	223.43	4.40	-.19	17.9800	.4280	-1.18	142.	142.	142.
32.000	8.6061	.1945	.31	230.35	5.67	.41	13.0200	.4154	-.29	145.	146.	144.
34.000	6.4435	.1536	.45	235.52	6.79	.04	9.5370	.3328	-.22	150.	151.	150.
36.000	4.8520	.1253	.19	240.68	8.53	.19	7.0270	.2771	-.39	150.	151.	150.
38.000	3.6753	.1055	-.32	246.15	10.01	.31	5.2000	.2000	.15	150.	152.	150.
40.000	2.8014	.0964	-.65	251.19	10.12	-.14	3.8870	.1353	-.04	150.	151.	150.
42.000	2.1485	.0872	-.75	257.35	10.35	-.35	2.9090	.1102	.11	150.	151.	150.
44.000	1.6588	.0752	-.75	262 97	9.53	-.31	2.1970	.0924	-.41	150.	149.	150.
46.000	1.2867	.0636	-.69	266.34	8.93	-.16	1.6820	.0769	-1.02	149.	146.	149.
48.000	.9995	.0529	-.59	265.70	7.41	-.75	1.3090	.0585	-1.09	149.	144.	149.
50.000	.7753	.0438	-.54	262.73	6.40	-.30	1.0270	.0504	-.82	148.	147.	148.
52.000	.5992	.0359	-.53	259.32	6.26	-.03	.8051	.0447	-.99	148.	150.	148.
54.000	.4618	.0282	-.33	257.02	5.59	-.13	.6260	.0366	-.75	146.	147.	146.
56.000	.3559	.0216	-.06	255.30	6.48	.46	.4859	.0290	-.50	142.	143.	142.
58.000	.2729	.0166	.11	253.67	6.49	.00	.3748	.0219	-.13	123.	125.	123.
60.000	.2083	.0139	.20	251.11	9.27	.38	.2890	.0173	-.09	91.	93.	91.
62.000	.1544	.0034	.36	245.33	10.48	.67	.2192	.0117	-.22	53.	53.	53.
64.000	.1164	.0077	.58	240.59	11.03	1.49	.1606	.0094	-.64	47.	47.	47.
66.000	.0877	.0062	.98	234.89	13.85	1.43	.1300	.0066	-.07	41.	41.	41.
68.000	.0653	.0060	.99	227.98	14.55	1.53	.0997	.0065	-.58	39.	39.	39.
70.000	.0479	.0034	-.22	222.88	9.25	.02	.0749	.0049	-.48	36.	36.	36.

TABLE II-2. THERMODYNAMIC STATISTICAL PARAMETERS

FEBRUARY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1019.9000	5.4694	-.31	278.73	6.56	.08	1273.0000	35.4300	.13	290.	290.	290.
.705	935.2900	4.4435	-.38	278.28	4.55	.19	1169.0000	21.6700	.13	304.	304.	304.
1.000	903.9200	4.6111	-.47	281.55	3.98	.12	1117.0000	16.1400	.01	319.	319.	319.
2.000	800.5200	4.7519	-.67	277.27	4.82	-.12	1005.0000	14.9200	.17	325.	325.	325.
3.000	707.2400	5.2634	-.55	272.22	4.61	-.47	904.4000	10.5700	.48	324.	324.	324.
4.000	622.9900	5.8262	-.63	266.33	4.33	-.72	814.4000	7.6690	.59	323.	323.	323.
5.000	547.2700	6.1455	-.68	259.54	4.20	-.86	734.3000	6.1560	.28	324.	324.	324.
6.000	479.3100	6.2947	-.73	252.40	4.22	-1.04	661.3000	5.0680	.08	323.	323.	323.
7.000	417.8500	6.3.80	-.79	244.90	4.31	-.90	594.3000	4.5740	-.50	322.	322.	322.
8.000	362.8000	6.3064	-.81	237.16	4.14	-.66	532.8000	4.5990	-1.25	321.	321.	321.
9.000	[illegible]	[illegible]	-.73	[illegible]	3.76	-.33	[illegible]	[illegible]	[illegible]	321.	321.	321.
10.000	269.7400	5.6304	-.55	222.76	3.61	.44	421.9000	8.1110	-1.76	320.	320.	320.
11.000	231.1400	4.9636	-.35	217.81	4.16	.83	369.8000	10.3800	-1.11	320.	320.	320.
12.000	197.5700	4.1963	-.09	215.11	5.81	.29	320.2000	11.8400	-.38	314.	314.	314.
13.000	168.6200	3.4334	.09	215.02	5.10	-.52	273.4000	9.4530	.13	314.	314.	314.
14.000	143.9400	2.8223	.21	213.89	3.72	-.39	234.5000	7.0960	.09	313.	313.	313.
15.000	122.6800	2.2588	.22	211.60	3.51	-.02	202.1000	6.1260	.16	312.	312.	312.
16.000	104.3900	1.7557	.24	209.54	3.74	-.13	173.6000	5.2650	.21	311.	311.	311.
17.000	88.7390	1.3650	.27	208.46	3.67	-.29	148.4000	4.1860	.28	296.	296.	296.
18.000	75.3910	1.0786	.31	208.29	3.53	-.05	126.1000	3.1840	.14	295.	295.	295.
19.000	64.1020	.8895	.27	209.25	3.23	-.07	106.7000	2.3150	.10	288.	288.	288.
20.000	54.5220	.7622	.26	210.32	3.12	-.16	90.3200	1.7020	.18	282.	282.	282.
21.000	46.4780	.7100	.25	211.77	3.20	-.30	76.4700	1.3270	.30	217.	217.	217.
22.000	39.6390	.6400	.25	213.22	3.12	-.29	64.7700	1.0520	.29	204.	204.	204.
23.000	33.8430	.5838	.23	214.60	3.09	-.37	54.9400	.8478	.12	201.	201.	201.
24.000	28.8730	.5274	.23	215.65	3.18	-.14	46.6400	.6839	-.05	239.	239.	239.
25.000	24.7060	.4773	.27	217.11	3.11	-.27	39.6400	.6212	-.26	231.	231.	231.
26.000	21.1560	.4396	.25	218.62	3.18	-.17	33.7100	.5833	-.19	229.	229.	229.
27.000	18.1730	.3916	.21	220.47	3.14	-.27	28.7200	.5442	-.16	178.	178.	178.
28.000	15.6090	.3443	.32	222.23	3.36	-.19	24.4700	.4992	-.11	170.	170.	170.
29.000	13.4130	.3070	.21	223.94	3.35	.13	20.8700	.4182	-.11	131.	131.	131.
30.000	11.5450	.2738	.26	225.75	3.51	.26	17.8200	.3902	-.12	131	131.	131.
32.000	8.6740	.2054	.33	232.40	5.30	-.01	13.0200	.3618	.21	142.	145.	139.
34.000	6.5042	.1720	.13	237.98	5.97	-.37	9.5260	.3025	.20	140.	144.	140.
36.000	4.9138	.1371	.08	244.57	7.23	-.14	7.0040	.2634	.11	141.	146.	141.
38.000	3.7407	.1109	.00	250.62	8.26	-.15	5.2020	.1992	-.23	142.	147.	142.
40.000	2.8650	.0932	-.10	255.53	9.07	-.03	3.9090	.1496	-.57	142.	146.	142.
42.000	2.2058	.0739	-.21	260.08	8.84	-.08	2.9570	.1051	-.07	142.	146.	142.
44.000	1.7046	.0690	-.28	263.08	7.79	.01	2.2530	.0785	.12	141.	146.	141.
46.000	1.3205	.0584	-.27	264.01	7.23	.23	1.7430	.0637	-.37	141.	143.	141.
48.000	1.0228	.0485	-.12	263.81	6.88	-.02	1.3510	.0569	-.67	140.	141.	140.
50.000	.7928	.0398	-.05	262.79	6.49	-.15	1.0530	.0469	-.48	140.	145.	140.
52.000	.6129	.0326	.06	261.31	6.28	-.07	.8179	.0396	-.32	137.	142.	137.
54.000	.4731	.0266	.06	260.15	5.57	.23	.6341	.0335	-.34	134.	139.	134.
56.000	.3652	.0208	.27	257.33	5.93	-.04	.4946	.0266	-.17	128.	134.	128.
58.000	.2810	.0168	.38	255.31	6.95	-.11	.3835	.0215	.18	112.	117.	112.
60.000	.2158	.0137	.33	254.07	8.49	.04	.2960	.0162	.09	85.	88.	85.
62.000	.1627	.0109	.55	249.64	9.41	.39	.2275	.0110	.03	52.	58.	52.
64.000	.1217	.0079	.55	241.53	8.63	.26	.1758	.0088	-.09	36.	38.	36.
66.000	.0923	.0067	.64	236.16	9.73	.95	.1361	.0082	.40	31.	31.	31.
68.000	.0692	.0056	.76	226.56	12.28	.69	.1058	.0084	.96	31.	30.	31.
70.000	.0505	.0036	.81	220.49	9.49	-.07	.0790	.0053	.24	25.	24.	25.

TABLE II-3. THERMODYNAMIC STATISTICAL PARAMETERS

MARCH

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1015.5000	5.5519	.30	283.13	6.50	.30	1247.0000	33.5200	.19	392.	392.	392.
.705	932.3500	4.4700	.04	281.18	4.87	.43	1153.0000	21.7400	.13	415.	415.	415.
1.000	901.1700	4.6718	-.31	282.37	4.75	.23	1110.0000	18.1500	-.07	426.	426.	426.
2.000	798.1800	4.9100	-.53	277.49	5.48	-.13	1001.0000	16.8500	.23	442.	442.	442.
3.000	705.1100	5.5306	-.47	271.89	5.28	-.53	902.7000	12.7100	.63	442.	442.	442.
4.000	620.9800	6.2199	-.55	265.90	4.96	-.64	813.1000	9.3040	.55	442.	442.	442.
5.000	545.4100	6.6205	-.56	259.20	4.75	-.62	732.7000	7.0680	.42	441.	441.	441.
6.000	477.6200	6.8065	-.58	252.22	4.58	-.65	659.5000	5.8120	.17	439.	439.	439.
7.000	416.3900	6.8120	-.57	244.77	4.51	-.54	592.5000	5.1000	-.39	439.	439.	439.
8.000	361.5500	6.7736	-.58	237.09	4.23	-.45	531.1000	4.9950	-1.01	437.	437.	437.
9.000	312.4300	6.4585	-.47	229.50	3.66	-.13	474.2000	6.1220	-1.54	437.	437.	437.
10.000	268.8300	5.9190	-.37	222.83	3.25	.24	420.3000	8.5830	-1.47	434.	434.	434.
11.000	230.4200	5.1109	-.23	217.89	3.75	.79	368.5000	11.1000	-.91	428.	428.	428.
12.000	196.9200	4.1746	-.08	215.00	5.36	.24	319.3000	12.4400	-.27	426.	426.	426.
13.000	168.0200	3.2407	.00	214.65	5.20	-.50	272.9000	10.3100	.33	422.	422.	422.
14.000	143.4200	2.5414	.03	214.02	3.80	-.42	233.6000	7.1850	.18	417.	417.	417.
15.000	122.2500	1.9963	.07	212.36	3.50	-.21	200.6000	5.7100	.14	413.	413.	413.
16.000	104.1200	1.5593	.09	210.77	3.34	-.12	172.1000	4.5890	.08	413.	413.	413.
17.000	88.5960	1.2136	.06	210.35	3.32	-.34	146.8000	3.6530	.26	391.	391.	391.
18.000	75.3810	.9584	.02	210.38	3.26	-.32	124.9000	2.7910	.25	388.	388.	388.
19.000	64.1840	.7745	.05	211.03	3.07	-.32	106.0000	2.0020	.25	375.	375.	375.
20.000	54.6770	.6706	.03	211.99	2.77	-.30	89.8700	1.4000	.27	365.	365.	365.
21.000	46.6870	.6020	-.02	213.62	2.32	-.04	76.1400	1.0310	.14	295.	295.	295.
22.000	39.8670	.5298	.13	214.78	2.62	-.20	64.6700	.8512	.01	288.	288.	288.
23.000	34.0630	.4880	.14	216.11	2.65	-.03	54.9200	.7303	-.36	285.	285.	285.
24.000	29.0980	.4499	.12	217.06	3.04	.46	46.7000	.6515	-.88	321.	321.	321.
25.000	24.9130	.4149	.14	218.41	3.42	1.02	39.7400	.6022	-1.25	316.	316.	316.
26.000	21.3510	.3871	.13	219.80	3.65	1.14	33.8400	.5283	-1.48	313.	313.	313.
27.000	18.3530	.3646	.12	221.73	3.75	1.13	28.8400	.4740	-1.17	254.	254.	254.
28.000	15.7840	.3285	.23	223.49	3.82	.82	24.6000	.4029	-.97	243.	243.	243.
29.000	13.5850	.3602	.26	225.27	3.68	.52	21.0100	.3500	-.64	199.	199.	199.
30.000	11.6900	.2854	.36	227.24	3.88	.38	17.9200	.3299	-.50	204.	204.	204.
32.000	8.8329	.1973	.65	234.18	5.89	.78	13.1500	.2873	.21	116.	119.	113.
34.000	6.6382	.1740	.62	238.74	6.27	.62	9.6960	.2397	.40	116.	119.	115.
36.000	5.0187	.1450	.81	244.35	6.69	.00	7.1620	.2126	.31	115.	118.	115.
38.000	[illegible]	.1233	.80	248.17	6.18	.01	[illegible]	.1550	.30	116.	119.	116.
40.000	2.9169	.1035	.72	253.65	6.13	.39	4.0090	.1252	.79	116.	119.	116.
42.000	2.2410	.0860	.62	258.10	6.22	.11	3.0260	.1055	.61	116.	119.	116.
44.000	1.7296	.0704	.54	262.04	5.15	.16	2.2990	.0868	.57	116.	117.	116.
46.000	1.3395	.0569	.50	264.53	5.29	-.10	1.7630	.0699	.53	116.	116.	116.
48.000	1.0386	.0463	.51	265.58	5.80	-1.19	1.3610	.0554	.44	116.	115.	116.
50.000	.8073	.0378	.38	265.91	5.83	-.84	1.0580	.0440	.48	115.	116.	115.
52.000	.6270	.0310	.34	264.97	5.30	-.26	.8245	.0271	.22	113.	115.	113.
54.000	.4863	.0252	.38	262.96	5.01	-.07	.6438	.0305	-.02	110.	108.	110.
56.000	.3759	.0202	.47	261.81	6.10	.07	.5005	.0239	-.18	105.	107.	105.
58.000	.2908	.0167	.56	259.80	6.31	-.08	.3896	.0192	-.12	95.	96.	95.
60.000	.2221	.0130	.61	256.21	7.62	-.07	.3018	.0148	-.34	65.	65.	65.
62.000	.1692	.0096	.73	251.36	7.92	.42	.2344	.0106	.55	51.	51.	51.
64.000	.1284	.0072	1.08	246.63	7.80	1.17	.1813	.0077	.34	32.	32.	32.
66.000	.0966	.0054	1.45	241.20	8.02	1.09	.1395	.0064	.82	25.	25.	25.
68.000	.0727	.0046	1.66	232.49	10.88	.62	.1089	.0057	.56	24.	24.	24.
70.000	.0534	.0020	.22	225.78	10.05	-.45	.0825	.0046	1.43	21.	21.	21.

TABLE II-4. THERMODYNAMIC STATISTICAL PARAMETERS

APRIL

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1013.4000	4.3331	.13	285.51	6.25	.38	1234.0000	29.8200	.19	314.	314.	314.
.705	931.1700	3.7289	-.04	283.34	5.15	.63	1142.0000	20.7800	-.30	341.	341.	341.
1.000	900.3100	4.0559	-.08	284.02	5.23	.20	1102.0000	19.0300	-.24	362.	362.	362.
2.000	797.9400	4.5528	-.23	278.89	5.65	-.07	995.5000	16.9900	.03	380.	380.	380.
3.000	705.2800	5.2956	-.30	272.73	5.33	-.42	900.1000	13.1200	.39	380.	380.	380.
4.000	621.4200	6.0146	-.41	266.71	5.14	-.70	811.2000	10.0200	.60	380.	380.	380.
5.000	546.0100	6.4960	-.51	260.11	4.88	-.93	730.9000	7.6480	.59	379.	379.	379.
6.000	478.3300	6.7599	-.65	253.12	4.77	-1.18	658.0000	6.1650	.39	378.	378.	378.
7.000	417.2400	6.8325	-.72	245.73	4.54	-1.02	591.2000	5.0910	-.25	377.	377.	377.
8.000	362.4800	6.7119	-.74	238.24	3.85	-.43	529.8000	5.4180	-1.09	377.	377.	377.
9.000	313.4500	6.2201	-.61	230.65	3.24	-.20	472.0000	7.1070	-1.32	375.	375.	375.
10.000	269.8600	5.6598	-.45	224.14	2.87	.51	419.5000	9.3210	-1.70	369.	369.	369.
11.000	231.3900	4.8312	-.21	218.77	3.73	.94	368.6000	11.1900	-1.23	368.	368.	368.
12.000	197.8900	3.8898	.04	215.21	5.29	.58	320.6000	12.0200	-.66	364.	364.	364.
13.000	168.8600	3.0462	.19	214.76	5.32	-.08	274.2000	9.8660	-.02	360.	360.	360.
14.000	144.2000	2.3593	.42	214.67	4.14	-.32	234.1000	7.0060	.18	354.	354.	354.
15.000	123.0200	1.6872	.57	213.29	3.44	-.09	201.0000	5.2710	.13	347.	347.	347.
16.000	104.8600	1.4863	.62	212.01	3.57	.01	172.4000	4.4940	.32	347.	347.	347.
17.000	89.3490	1.1937	.54	211.42	3.62	-.18	147.3000	3.7310	.58	334.	334.	334.
18.000	76.0760	.9598	.43	211.25	3.52	-.29	125.5000	2.0620	.80	330.	330.	330.
19.000	64.8330	.7974	.29	212.09	3.01	-.21	106.5000	1.9570	.65	321.	321.	321.
20.000	55.2760	.6965	.17	213.12	2.72	-.10	90.3600	1.3320	.47	314.	314.	314.
21.000	47.2870	.6172	.02	214.78	2.59	-.19	76.7000	.9598	.53	245.	245.	245.
22.000	40.4120	.5684	-.06	216.33	2.58	-.20	65.0800	.7672	.28	241.	241.	241.
23.000	34.5800	.5303	-.13	217.76	2.58	-.01	55.3200	.6550	.12	236.	236.	236.
24.000	29.5550	.4764	.08	218.93	2.79	.22	47.0300	.5945	.01	277.	277.	277.
25.000	25.3380	.4419	.08	220.41	2.98	.08	40.0500	.5399	-.18	271.	271.	271.
26.000	21.7410	.4105	.06	222.04	3.08	-.05	34.1100	.4743	.02	269.	269.	269.
27.000	18.7340	.3647	.00	224.13	3.09	-.07	29.1200	.4468	.02	215.	215.	215.
28.000	16.1380	.3256	.01	226.03	3.26	-.06	24.8700	.4107	-.02	208.	208.	208.
29.000	13.9090	.2831	.12	227.82	3.41	.23	21.2700	.3573	.09	165.	165.	165.
30.000	11.9990	.2671	.06	229.72	3.57	.16	18.2000	.3526	-.05	155.	165.	165.
32.000	9.0443	.2233	.16	236.47	4.23	.13	13.3500	.2902	.33	120.	123.	116.
34.000	6.8250	.1869	-.02	241.96	4.44	.09	9.8280	.2575	.51	122.	125.	120.
36.000	5.1778	.1513	-.19	246.57	5.25	.62	7.3140	.2283	.36	122.	125.	122.
38.000	3.9476	.1218	-.30	250.87	4.73	-.34	5.4810	.1598	.19	123.	126.	123.
40.000	3.0249	.0984	-.34	256.14	4.82	.06	4.1130	.1302	.02	124.	127.	124.
42.000	2.3321	.0787	-.31	261.93	4.28	.10	3.1000	.1064	-.37	124.	126.	124.
44.000	1.8079	.0626	-.22	266.73	4.61	.14	2.3610	.0799	-.45	124.	127.	124.
46.000	1.4058	.0505	-.12	268.26	4.79	-.43	1.8250	.0647	-.30	124.	121.	124.
48.000	1.0951	.0409	-.02	269.81	4.47	-.17	1.4140	.0474	-.27	124.	124.	124.
50.000	.8533	.0334	.09	269.10	4.48	-.56	1.1040	.0388	-.11	123.	121.	123.
52.000	.6645	.0273	.16	268.13	4.47	-.17	.8632	.0304	-.08	123.	123.	123.
54.000	.5169	.0228	.23	265.68	5.10	-.05	.6780	.0262	.22	120.	124.	120.
56.000	.4007	.0185	.27	263.74	5.73	-.55	.5296	.0208	-.37	115.	120.	115.
58.000	.3098	.0152	.41	260.72	8.18	-.70	.4142	.0164	-.11	105.	110.	105.
60.000	.2385	.0125	.54	257.23	7.78	-.51	.3228	.0124	.65	79.	84.	79.
62.000	.1798	.0092	.23	251.06	9.86	.14	.2495	.0096	.65	48.	51.	48.
64.000	.1352	.0069	-.13	243.21	8.88	1.11	.1934	.0080	.80	38.	40.	38.
66.000	.1020	.0059	.15	235.67	9.15	1.96	.1507	.0070	.16	37.	39.	37.
68.000	.0770	.0044	1.56	227.80	12.29	1.59	.1179	.0055	.36	35.	36.	35.
70.000	.0563	.0026	.85	218.16	11.06	1.53	.0900	.0044	.59	30.	31.	30.

TABLE II-5. THERMODYNAMIC STATISTICAL PARAMETERS

MAY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1011.0000	3.6388	-.09	290.30	6.80	.90	1210.0000	30.7900	-.66	265.	265.	265.
.705	930.1300	2.8666	-.31	287.99	5.21	.58	1122.0000	20.5900	-.39	298.	298.	298.
1.000	900.1600	3.0672	-.51	288.78	5.13	-.15	1083.0000	18.6700	.16	316.	316.	316.
2.000	799.4100	3.7031	-.71	283.98	5.39	-.53	979.1000	16.0800	.55	327.	327.	327.
3.000	708.1300	4.4354	-.67	277.56	4.84	-.86	887.7000	12.0400	.80	327.	327.	327.
4.000	625.2600	5.0633	-.76	270.86	4.67	-1.01	803.4000	9.3770	.78	327.	327.	327.
5.000	550.5500	5.5506	-.86	263.95	4.54	-1.12	726.1000	7.3630	.67	327.	327.	327.
6.000	483.1800	5.7894	-.93	256.94	4.28	-1.01	654.7000	5.4330	.26	327.	327.	327.
7.000	422.2600	5.8643	-.96	249.63	3.97	-.92	588.9000	4.4780	-.14	327.	327.	327.
8.000	367.6900	5.7941	-.92	242.04	3.81	-.66	528.9000	4.5230	-.95	327.	327.	327.
9.000	318.7100	5.5547	-.83	234.40	3.36	-.48	473.4000	5.2800	-2.00	326.	326.	326.
10.000	274.9600	5.2023	-.67	227.13	2.94	-.34	421.7000	6.5950	-2.28	326.	326.	326.
11.000	236.2300	4.6371	-.46	220.92	2.85	.48	372.6000	8.2280	-1.72	326.	326.	326.
12.000	202.2200	3.9049	-.32	215.04	3.72	.97	326.2000	9.5590	-1.10	325.	325.	325.
13.000	172.6000	3.1561	-.14	214.14	4.49	.32	281.0000	9.5300	-.33	321.	321.	321.
14.000	147.2700	2.4691	-.12	214.21	3.93	-.19	239.6000	7.0770	.14	319.	319.	319.
15.000	125.6100	1.9698	-.13	213.35	3.43	-.13	205.2000	5.2540	.12	317.	317.	317.
16.000	107.0700	1.6024	-.10	212.36	3.03	-.18	175.7000	4.1200	.04	316.	316.	316.
17.000	91.2590	1.3043	-.05	211.72	2.85	-.34	150.2000	3.3750	.07	309.	309.	309.
18.000	77.7390	1.0655	-.01	211.74	2.71	-.27	127.9000	2.7800	.09	308.	308.	308.
19.000	66.2420	.8764	.02	212.53	2.40	-.36	108.6000	2.0890	.00	305.	305.	305.
20.000	56.5130	.7338	.03	213.93	2.13	-.37	92.0300	1.4970	.15	297.	297.	297.
21.000	48.3620	.6205	-.05	215.90	2.05	-.34	78.0400	1.0960	.17	244.	244.	244.
22.000	41.3630	.5567	-.03	217.47	2.07	-.18	66.2600	.8196	.27	242.	242.	242.
23.000	35.4280	.5036	.00	219.15	1.96	.07	56.3200	.6518	.06	239.	239.	239.
24.000	30.2880	.4907	.06	220.50	2.19	.28	47.8500	.5609	.06	265.	265.	265.
25.000	25.9950	.4385	.11	222.09	2.27	.49	40.7700	.4869	-.05	277.	277.	277.
26.000	22.3350	.4053	.12	223.84	2.39	.35	34.7600	.4411	-.12	272.	272.	272.
27.000	19.2480	.3596	.13	225.88	2.47	.41	29.6800	.4027	-.08	238.	238.	238.
28.000	16.5940	.3288	.16	227.69	2.61	.24	25.3900	.3588	-.01	232.	232.	232.
29.000	14.3140	.3130	.18	229.30	2.84	.14	21.7500	.3414	.00	195.	195.	195.
30.000	12.3720	.2869	.22	231.10	2.94	.15	18.6500	.3115	-.11	192.	192.	192.
32.000	9.3171	.1544	.44	237.27	3.34	.55	13.6900	.2102	.06	145.	149.	142.
34.000	7.0276	.1299	.38	242.36	3.41	.48	10.1100	.1672	.19	146.	150.	146.
36.000	5.3323	.1049	.42	246.86	3.61	-.23	7.5260	.1453	.26	146.	150.	146.
38.000	4.0762	.0893	.63	252.33	4.01	-.47	5.6210	.1285	.65	148.	150.	148.
40.000	3.1233	.0719	.48	258.03	3.29	.20	4.2180	.0984	.89	147.	151.	147.
42.000	2.4131	.0565	.40	263.92	3.45	-.38	3.1850	.0717	.26	147.	151.	147.
44.000	1.8732	.0452	.39	268.29	3.55	.00	2.4320	.0561	.72	145.	144.	145.
46.000	1.4595	.0372	.29	270.88	4.17	-.12	1.8760	.0428	.48	145.	138.	145.
48.000	1.1390	.0311	.23	271.34	4.42	-.26	1.4590	.0332	.55	144.	139.	144.
50.000	.8892	.0260	.16	271.72	4.42	-.09	1.1400	.0291	.20	144.	129.	144.
52.000	.6939	.0214	.13	269.48	4.45	-.63	.8968	.0244	.53	143.	138.	143.
54.000	.5401	.0178	.13	266.81	4.55	.06	.7050	.0188	.24	141.	139.	141.
56.000	.4189	.0153	.13	263.78	5.28	-.12	.5534	.0157	.06	130.	132.	130.
58.000	.3241	.0125	.03	260.39	5.12	-.28	.4335	.0129	.01	114.	115.	114.
60.000	.2481	.0097	.33	256.26	5.86	.28	.3372	.0108	.07	81.	82.	81.
62.000	.1894	.0080	.93	249.96	6.51	.21	.2639	.0084	.37	54.	55.	54.
64.000	.1426	.0047	.62	241.78	7.05	.36	.2051	.0066	.81	39.	39.	39.
66.000	.1073	.0040	.82	233.48	8.65	.65	.1601	.0044	.48	37.	37.	37.
68.000	.0799	.0039	1.01	222.69	11.80	1.12	.1250	.0034	1.07	36.	36.	36.
70.000	.0587	.0038	1.39	213.01	14.54	1.95	.0960	.0039	.61	34.	34.	34.

TABLE II-6. THERMODYNAMIC STATISTICAL PARAMETERS

JUNE

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1008.3000	2.9985	-.16	294.56	6.93	.74	1189.0000	29.5700	-.61	317.	317.	317.
.705	928.8400	2.5992	-.44	292.72	5.55	.44	1102.0000	20.4000	-.34	349.	349.	349.
1.000	899.4400	2.8459	-.44	293.98	5.53	-.37	1063.0000	18.9300	.40	363.	363.	363.
2.000	800.5400	3.6285	-.56	289.29	5.20	-.57	962.1000	14.6900	.64	369.	369.	369.
3.000	710.7000	4.4029	-.53	282.71	4.54	-.74	874.4000	10.4000	.69	369.	369.	369.
4.000	628.9500	4.9395	-.61	275.67	4.27	-.84	793.6000	8.0320	.50	369.	369.	369.
5.000	554.9900	5.2605	-.72	268.77	4.24	-.88	718.7000	6.7460	.25	369.	369.	369.
6.000	488.3700	5.5732	-.79	261.63	4.02	-.87	649.7000	5.2280	.00	368.	358.	368.
7.000	427.8300	5.6127	-.84	254.34	4.02	-1.01	565.5000	4.3020	-.14	368.	368.	368.
8.000	373.5000	5.6433	-.89	246.79	4.02	-1.03	526.8000	3.9030	-.31	368.	368.	358.
9.000	324.0000	5.5049	-.89	239.15	3.62	-.64	472.4000	4.6450	-.62	[illegible]	[illegible]	[illegible]
10.000	280.9800	5.3210	-.78	231.88	3.17	-.27	422.0000	5.4760	-1.74	363.	363.	363.
11.000	242.1600	4.8956	-.62	225.24	3.03	.00	374.6000	7.0270	-1.96	363.	363.	363.
12.000	207.7800	4.2418	-.43	219.66	3.39	.15	329.6000	8.1940	-1.47	361.	361.	361.
13.000	177.6700	3.5464	-.25	215.62	3.77	.32	287.2000	8.5580	-.95	358.	358.	358.
14.000	151.6100	2.8408	-.10	213.01	3.87	.42	248.1000	8.0410	-.45	358.	358.	358.
15.000	129.0900	2.1724	-.04	210.73	3.97	.21	213.5000	7.0620	-.13	353.	353.	353.
16.000	109.8000	1.5997	-.01	209.19	4.14	-.11	183.0000	5.7990	.04	350.	350.	350.
17.000	93.3800	1.1851	.00	209.05	3.88	-.10	155.7000	4.3560	.05	324.	324.	324.
18.000	79.4110	.6933	.02	210.12	3.22	-.06	131.7000	2.9350	.04	322.	322.	322.
19.000	67.6190	.7141	-.04	212.18	2.44	.05	111.0000	1.8080	.03	319.	319.	319.
20.000	57.6790	.6101	.06	214.36	2.12	.03	93.7500	1.2370	.06	316.	316.	316.
21.000	49.3380	.5361	-.05	216.71	1.69	-.11	79.3200	.9123	-.23	262.	262.	262.
22.000	42.2330	.4731	.02	218.48	1.58	-.19	67.3400	.7117	-.16	257.	257.	257.
23.000	36.1930	.4272	.01	220.16	1.56	-.38	57.2700	.5687	-.04	255.	255.	255.
24.000	31.0440	.3871	.03	221.93	1.52	-.18	48.7300	.4877	.02	254.	254.	254.
25.000	26.6260	.3677	.04	223.49	1.67	-.11	41.5000	.4450	-.03	280.	280.	280.
26.000	22.9010	.3298	.04	225.28	1.81	-.08	35.4100	.3973	-.03	277.	277.	277.
27.000	19.7580	.2926	-.05	227.28	1.89	.23	30.2800	.3678	-.05	230.	230.	230.
28.000	17.0440	.2677	.00	229.10	1.94	.22	25.9200	.3207	-.14	223.	223.	223.
29.000	14.7310	.2470	-.08	230.95	2.55	.93	22.2200	.3071	-.56	189.	189.	189.
30.000	12.7220	.2275	-.11	[illegible]	2.55	.45	19.0700	.2495	-.41	184.	184.	184.
32.000	9.5966	.1740	.34	237.94	3.18	.24	14.0500	.2301	.46	118.	121.	116.
34.000	7.2352	.1488	.22	242.71	3.45	.33	10.3900	.1979	-.28	118.	121.	117.
36.000	5.5001	.1156	.19	247.39	3.98	-.01	7.7430	.1650	.50	118.	121.	118.
38.000	4.1964	.0948	.19	252.25	4.25	-.07	5.7960	.1196	.23	118.	122.	118.
40.000	3.2217	.0784	.20	258.44	3.90	.77	4.3410	.0957	-.02	117.	122.	117.
42.000	2.4887	.0645	.19	264.09	4.16	-.15	3.2810	.0810	.02	117.	121.	117.
44.000	1.9314	.0523	.18	268.17	3.64	-.03	2.5070	.0624	.03	116.	114.	116.
46.000	1.5045	.0431	.23	270.58	4.37	.03	1.9360	.0497	-.09	116.	109.	116.
48.000	1.1741	.0356	.27	271.84	4.53	.03	1.5050	.0389	-.12	115.	109.	115.
50.000	.9160	.0297	.37	272.24	4.81	-.14	1.1720	.0314	-.03	111.	106.	111.
52.000	.7150	.0240	.37	270.36	4.96	-.62	.9198	.0305	-.45	104.	98.	104.
54.000	.5568	.0203	.28	267.78	4.91	-.09	.7228	.0239	-.34	98.	95.	98.
56.000	.4334	.0168	.39	264.20	5.27	-.12	.5709	.0181	-.11	93.	95.	93.
58.000	.3349	.0150	.49	260.35	5.47	-.29	.4482	.0145	.34	71.	75.	71.
60.000	.2566	.0121	.69	256.07	6.25	-.17	.3496	.0113	.34	51.	55.	51.
62.000	.1939	.0095	1.10	248.53	8.54	.01	.2723	.0086	.47	30.	32.	30.
64.000	.1454	.0077	1.62	240.97	10.10	.59	.2119	.0061	.66	23.	26.	23.
66.000	.1087	.0047	.66	234.08	12.24	.01	.1638	.0057	.82	22.	25.	22.
68.000	.0811	.0040	.41	223.08	12.74	-.52	.1276	.0043	.71	23.	24.	23.
70.000	.0597	.0038	.23	215.46	15.78	1.33	.0976	.0045	-.50	19.	20.	19.

TABLE II-7. THERMODYNAMIC STATISTICAL PARAMETERS

JULY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1008.8000	2.3976	-.06	297.84	6.15	.65	1176.0000	25.9600	-.42	308.	308.	308.
.705	930.2300	1.9973	-.14	296.29	4.30	.44	1090.0000	15.7300	-.22	329.	329.	329.
1.000	901.0800	2.2577	-.36	298.00	3.02	-.36	1050.0000	10.9300	.23	337.	337.	337.
2.000	803.2700	2.2361	-.36	293.46	2.77	-.48	951.3000	8.4610	.26	345.	345.	345.
3.000	714.2800	2.3456	-.31	286.51	2.32	-.28	866.8000	6.2610	.08	345.	345.	345.
4.000	633.2000	2.4230	-.35	279.13	1.98	-.29	789.0000	4.9130	.09	345.	345.	345.
5.000	559.6100	2.4159	-.35	271.88	1.99	.04	715.2000	4.5560	.09	345.	345.	345.
6.000	493.3000	2.3692	-.20	264.80	2.07	.22	648.4000	3.8660	-.02	344.	344.	344.
7.000	432.8400	2.3269	-.05	257.95	2.08	.08	584.2000	3.2030	-.10	343.	343.	343.
8.000	378.7000	2.3669	-.05	250.98	2.31	-.21	525.3000	3.1770	.22	341.	341.	341.
9.000	329.9200	2.4132	-.07	243.78	2.52	-.17	471.2000	3.0010	-.04	341.	341.	341.
10.000	286.4700	2.4617	-.08	236.47	2.43	-.18	421.8000	2.9070	-.27	340.	340.	340.
11.000	247.6100	2.4172	-.14	229.32	2.32	-.35	376.1000	2.8270	-.49	337.	337.	337.
12.000	[illegible]	[illegible]	-.15	[illegible]	[illegible]	.25	[illegible]	[illegible]	-.75	336.	336.	336.
13.000	182.3400	2.0310	-.17	216.25	2.15	.04	293.8000	3.9950	-.61	335.	336.	335.
14.000	155.5000	1.7212	-.17	210.55	2.41	.25	257.3000	4.3740	-.53	336.	336.	336.
15.000	132.1100	1.3988	-.20	206.42	2.68	.41	223.0000	4.2710	-.38	331.	331.	331.
16.000	111.9900	1.1213	-.19	205.16	2.68	.19	190.2000	3.5340	-.13	328.	328.	328.
17.000	95.0020	.8813	-.25	206.11	2.52	-.09	160.6000	2.6150	.27	316.	316.	316.
18.000	80.6390	.7530	-.31	208.66	2.40	-.19	134.6000	1.8960	.43	313.	313.	313.
19.000	68.6170	.6354	-.04	211.61	2.13	-.36	113.0000	1.3430	.54	306.	306.	306.
20.000	58.5300	.5678	-.02	214.20	2.00	-.23	95.2000	1.0100	.51	304.	304.	304.
21.000	50.0760	.5134	-.04	216.91	1.74	-.20	80.4300	.7902	.14	250.	250.	250.
22.000	42.8660	.4758	-.02	218.87	1.45	-.72	68.2300	.6269	-.15	236.	236.	236.
23.000	36.7470	.4253	-.08	220.56	1.45	-.39	58.0400	.5572	-.03	236.	236.	236.
24.000	31.5300	.3848	-.07	222.13	1.56	-.21	49.4500	.4822	-.01	235.	235.	235.
25.000	27.0390	.3474	.14	223.43	1.74	-.14	42.1600	.4107	.06	273.	273.	273.
26.000	23.2530	.3203	.13	225.04	1.86	-.21	36.0000	.3647	.01	269.	269.	269.
27.000	20.0700	.2794	.12	226.86	2.13	-.28	30.8200	.3137	.04	224.	224.	224.
28.000	17.3150	.2629	.14	228.62	2.15	-.22	26.3800	.2848	.01	207.	207.	207.
29.000	14.9530	.2434	.06	230.35	2.43	-.10	22.6100	.2643	.19	186.	186.	186.
30.000	12.9160	.2299	.15	231.79	2.46	-.12	19.4100	.2373	.03	172.	172.	172.
32.000	9.7042	.1560	.56	236.70	3.43	.30	14.2900	.2333	-.04	113.	118.	109.
34.000	7.3137	.1279	.53	240.94	3.32	.18	10.5800	.1625	-.18	111.	117.	111.
36.000	5.5393	.1046	.64	245.20	3.43	-.18	7.8750	.1301	.32	111.	117.	111.
38.000	4.2159	.0874	.56	249.97	3.92	-.47	5.8780	.1131	.34	111.	118.	111.
40.000	3.2271	.0726	.52	255.68	3.95	-.39	4.3960	.0842	.33	111.	118.	111.
42.000	2.4860	.0604	.50	260.89	3.53	-.29	3.3190	.0703	.48	110.	117.	110.
44.000	1.9237	.0500	.44	264.50	4.46	-.35	2.5340	.0584	.08	110.	116.	110.
46.000	1.4920	.0419	.35	266.80	5.44	-.41	1.9500	.0473	.22	108.	114.	108.
48.000	1.1598	.0356	.25	268.05	4.96	-.72	1.5080	.0376	.27	107.	111.	107.
50.000	.9030	.0290	.38	267.67	4.22	-.46	1.1750	.0310	.25	103.	106.	103.
52.000	.7020	.0241	.40	265.87	4.26	-.27	.9193	.0259	.03	102.	103.	102.
54.000	.5455	.0202	.41	262.69	5.38	-.10	.7230	.0196	.25	98.	101.	98.
56.000	.4213	.0176	.46	259.11	5.90	.16	.5670	.0160	.64	94.	100.	94.
58.000	.3235	.0153	.58	253.93	7.30	.13	.4444	.0150	.72	81.	86.	81.
60.000	.2459	.0122	.39	249.24	9.70	.03	.3441	.0129	.22	59.	62.	59.
62.000	.1360	.0106	.57	241.31	10.00	.10	.2689	.0123	.49	44.	46.	44.
64.000	.1309	.0081	.71	234.39	10.13	.35	.2073	.0160	.41	37.	39.	37.
66.000	.1027	.0061	.49	227.33	9.44	-.11	.1578	.0094	.87	34.	35.	34.
68.000	.0755	.0045	.71	218.65	10.95	.31	.1204	.0078	.55	35.	35.	35.
70.000	.0553	.0037	1.06	212.89	10.10	.12	.0905	.0053	.41	30.	30.	30.

TABLE II-8. THERMODYNAMIC STATISTICAL PARAMETERS

AUGUST

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1009.0000	2.4388	-.19	298.22	6.36	.80	1174.0000	26.7200	-.60	343.	343.	343.
.705	930.4600	2.1470	-.26	296.46	4.56	.54	1089.0000	16.4500	-.38	362.	362.	362.
1.000	901.4100	2.3778	-.21	298.07	3.28	-.37	1050.0000	11.4900	.24	371.	371.	371.
2.000	803.5700	2.3715	-.38	293.09	2.99	-.41	952.5000	8.9100	.25	383.	383.	383.
3.000	714.5000	2.5246	-.50	285.93	2.46	-.43	868.5000	6.4850	.15	383.	383.	383.
4.000	633.2200	2.6855	-.54	278.58	2.16	-.46	790.5000	5.1450	-.05	383.	383.	383.
5.000	559.5600	2.6596	-.66	271.50	2.01	-.07	717.0000	4.5820	-.43	383.	383.	383.
6.000	493.1200	2.5216	-.71	264.67	2.03	-.02	648.4000	4.1090	-.16	383.	383.	383.
7.000	432.6500	2.4898	-.74	257.81	2.04	-.40	584.2000	3.4140	-.15	382.	382.	382.
8.000	378.5000	2.4735	-.76	250.91	2.19	-.61	525.2000	2.8730	-.02	378.	378.	378.
9.000	329.7500	2.5144	-.82	243.59	2.48	-.61	471.3000	2.8570	.00	378.	378.	378.
10.000	286.2800	2.5024	-.78	236.23	2.55	-.61	421.9000	2.8500	-.21	376.	376.	376.
11.000	247.4100	2.4655	-.76	229.11	2.47	-.38	376.2000	2.9570	-.72	376.	376.	376.
12.000	212.6700	2.2689	-.68	222.45	2.05	-.52	333.1000	3.1640	-1.01	376.	376.	376.
13.000	182.1700	2.0645	-.57	216.22	1.81	.08	293.5000	3.8290	-1.12	373.	373.	373.
14.000	155.3800	1.7309	-.36	210.76	2.38	.73	256.9000	4.5210	-1.24	373.	373.	373.
15.000	132.0300	1.3893	-.05	206.81	3.17	.80	222.5000	4.6810	-.99	371.	371.	371.
16.000	111.9600	1.1001	.21	205.34	3.20	.73	190.0000	3.7870	-.68	369.	369.	369.
17.000	94.9760	.8719	.26	206.12	2.52	.41	160.5000	2.5480	-.28	350.	350.	350.
18.000	80.6270	.7555	.24	208.65	2.34	.09	134.6000	1.7550	.05	348.	348.	348.
19.000	68.5930	.6704	.19	211.66	2.23	-.20	112.9000	1.2670	.68	342.	342.	342.
20.000	58.5180	.6172	.26	214.34	2.05	-.25	95.1100	.9539	.64	338.	338.	338.
21.000	50.0630	.5704	.09	216.79	1.72	-.08	80.4500	.7697	.18	281.	281.	281.
22.000	42.8470	.5233	.10	218.52	1.55	-.13	68.3100	.6657	.05	263.	263.	263.
23.000	36.7250	.4728	.04	220.09	1.63	-.25	58.1300	.5681	.22	255.	255.	255.
24.000	31.5070	.4247	.08	221.65	1.61	-.25	49.5200	.4706	.08	252.	252.	252.
25.000	27.0050	.3989	.21	222.86	1.78	-.16	42.2100	.4164	.13	287.	287.	287.
26.000	23.[illegible]	.3664	.16	224.36	1.94	-.22	36.0400	.3816	-.09	279.	279.	279.
27.000	[illegible]	.3151	.23	226.21	2.02	.08	30.8500	.3266	.05	240.	240.	240.
28.000	[illegible]	.2956	.24	227.77	2.10	.23	26.4100	.2886	-.04	231.	231.	231.
29.000	14.9050	.2716	.20	229.36	2.54	.03	22.6400	.2640	-.02	212.	212.	212.
30.000	[illegible]	.2547	.27	230.69	2.49	.01	[illegible]	[illegible]	.22	[illegible]	[illegible]	[illegible]
32.000	9.6593	.1281	.44	235.80	4.33	.79	14.3100	.2136	-.19	98.	108.	96.
34.000	7.2572	.1221	.23	239.12	4.54	.83	10.6000	.2135	-.60	101.	111.	101.
36.000	5.4896	.0915	.87	242.78	4.35	.07	7.8310	.1218	.08	101.	112.	101.
38.000	4.1662	.0789	.93	247.52	4.34	.33	5.8780	.1008	.83	101.	112.	101.
40.000	3.1818	.0664	1.03	253.19	4.12	.18	4.3860	.0884	.03	101.	112.	101.
42.000	2.4431	.0545	1.06	257.99	4.06	.26	3.3050	.0661	.60	101.	113.	101.
44.000	1.8860	.0448	1.04	262.71	4.21	-.60	2.5020	.0583	.66	101.	111.	101.
46.000	1.4613	.0377	.86	264.84	4.48	-.50	1.9250	.0426	.74	100.	110.	100.
48.000	1.1339	.0303	.95	264.91	4.99	-.33	1.4920	.0343	.61	98.	104.	98.
50.000	.8797	.0259	.77	265.12	5.22	-.48	1.1570	.0271	1.00	99.	108.	99.
52.000	.6824	.0224	.60	264.06	4.94	-.22	.9006	.0221	.87	98.	107.	98.
54.000	.5289	.0196	.55	261.38	6.11	.09	.7059	.0220	.48	98.	108.	98.
56.000	.4083	.0168	.58	257.89	7.31	.07	.5529	.0163	.29	97.	107.	97.
58.000	.3140	.0150	.63	254.38	7.92	.04	.4314	.0169	1.28	89.	98.	89.
60.000	.2378	.0119	.73	249.36	8.82	.30	.3338	.0124	.79	64.	71.	64.
62.000	.1787	.0091	1.23	242.91	9.17	.48	.2575	.0100	1.00	51.	55.	51.
64.000	.1336	.0072	1.62	235.12	10.50	.94	.1992	.0087	1.42	45.	48.	45.
66.000	.1001	.0061	1.40	229.52	11.64	1.40	.1527	.0095	1.93	44.	45.	44.
68.000	.0743	.0047	.90	220.00	11.08	-.19	.1177	.0078	2.29	45.	45.	45.
70.000	.0545	.0039	.58	213.56	9.91	-.52	.0890	.0060	1.45	40.	40.	40.

TABLE II-9. THERMODYNAMIC STATISTICAL PARAMETERS

SEPTEMBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1010.7000	3.2732	.00	291.89	6.17	.59	1203.0000	28.1100	-.26	246.	246.	246.
.705	930.4200	2.7519	-.12	290.99	4.46	.50	1110.0000	17.5800	-.15	269.	269.	269.
1.000	901.0100	2.8677	-.22	294.13	4.07	-.28	1064.0000	14.3700	.28	267.	267.	267.
2.000	802.0900	3.0927	-.40	289.34	3.83	-.56	963.5000	11.1500	.71	272.	272.	272.
3.000	712.0300	3.5141	-.49	282.56	3.17	-.41	876.3000	7.5980	.26	272.	272.	272.
4.000	630.3100	3.6938	-.53	276.23	2.97	-.27	793.9000	6.4640	-.16	272.	272.	272.
5.000	556.3500	3.7422	-.58	269.83	2.86	-.38	717.6000	5.6910	.08	272.	272.	272.
6.000	489.8300	3.7399	-.59	263.12	2.68	-.30	648.0000	4.5770	.25	271.	271.	271.
7.000	429.5200	3.6931	-.62	256.13	2.50	-.45	583.8000	3.8100	.05	271.	271.	271.
8.000	375.3000	3.6284	-.55	248.69	2.56	-.63	525.4000	3.5960	-.25	270.	270.	270.
9.000	326.5100	3.4900	-.54	240.96	2.62	-.39	471.7000	3.7440	-.48	270.	270.	270.
10.000	282.9900	3.3777	-.46	233.70	2.64	-.13	421.7000	4.1760	-.87	270.	270.	270.
11.000	244.1900	3.1881	-.38	227.07	2.92	.21	374.7000	4.8270	-1.00	268.	268.	268.
12.000	209.7300	2.9675	-.29	221.19	2.73	-.33	330.4000	5.0040	-.85	268.	268.	268.
13.000	179.5600	2.5233	-.21	216.04	2.54	-.16	289.6000	5.2540	-.67	267.	267.	267.
14.000	153.1800	2.1066	-.12	211.58	2.80	.59	252.3000	5.4340	-.54	267.	267.	267.
15.000	130.2800	1.6676	-.10	208.25	3.10	.53	218.0000	5.0920	-.23	266.	266.	266.
16.000	110.5800	1.3119	-.12	206.58	3.34	.40	186.5000	4.3590	-.05	263.	263.	263.
17.000	93.8950	.9850	-.05	206.62	3.15	.34	158.4000	3.2550	.00	251.	251.	251.
18.000	79.6990	.8104	.03	208.40	2.87	.29	133.3000	2.3130	.02	250.	250.	250.
19.000	67.8460	.8449	2.23	210.91	2.44	.33	112.1000	1.8530	1.38	247.	247.	247.
20.000	57.8270	.7295	2.05	213.38	2.38	.21	94.4200	1.4940	1.57	246.	246.	246.
21.000	49.4330	.6521	1.90	215.89	2.28	-.22	79.7700	1.1920	1.51	206.	206.	206.
22.000	42.2820	.5772	1.63	217.64	2.29	-.14	67.6800	.9982	1.92	206.	206.	206.
23.000	36.2000	.4857	.96	219.30	2.15	.02	57.5100	.7454	2.10	202.	202.	202.
24.000	31.0280	.4376	.72	220.98	1.96	.18	48.9200	.6386	2.18	202.	202.	202.
25.000	26.6060	.3892	.56	222.37	1.93	.52	41.6800	.5254	2.11	226.	226.	226.
26.000	22.8560	.3386	-.01	223.92	1.94	.72	35.5600	.3867	-.07	219.	219.	219.
27.000	19.6950	.3009	.05	225.56	2.03	.54	30.4200	.3488	-.12	188.	188.	188.
28.000	16.9610	.2769	.07	226.72	2.02	.02	26.0600	.3039	-.09	186.	186.	186.
29.000	14.6190	.2706	.21	227.90	2.28	-.01	22.3500	.3094	.64	160.	160.	160.
30.000	12.6170	.2448	.22	229.19	2.20	.22	19.1800	.2747	.82	158.	158.	158.
32.000	9.4813	.1879	.79	234.37	3.69	.60	14.1200	.2459	.85	95.	98.	92.
34.000	7.1194	.1598	.82	237.02	3.70	.35	10.4800	.1999	1.12	96.	99.	94.
36.000	5.3715	.1363	.56	241.31	4.58	-.22	7.7610	.1789	.66	97.	100.	97.
38.000	4.0745	.1072	1.09	245.79	3.43	.64	5.7790	.1272	.31	97.	101.	97.
40.000	3.1034	.0882	1.22	250.97	4.60	.02	4.3140	.1138	.58	97.	100.	97.
42.000	2.3811	.0722	1.31	256.85	4.10	.18	3.2330	.0815	.82	97.	100.	97.
44.000	1.8369	.0588	1.40	262.05	4.20	.14	2.4440	.0707	.87	97.	100.	97.
46.000	1.4224	.0483	1.45	264.49	4.64	-.50	1.8750	.0571	.87	97.	100.	97.
48.000	1.1041	.0401	1.45	266.30	5.06	-.50	1.4440	.0445	1.10	96.	96.	95.
50.000	.8583	.0336	1.36	266.41	4.99	-.97	1.1220	.0351	1.27	96.	96.	96.
52.000	.6672	.0287	1.22	265.30	5.32	-.58	.8754	.0273	1.47	92.	91.	92.
54.000	.5173	.0243	1.15	263.28	5.65	-.42	.6838	.0235	1.57	89.	88.	89.
56.000	.3998	.0203	1.10	261.58	5.46	-.08	.5329	.0209	1.76	86.	89.	86.
58.000	.3082	.0173	1.08	258.48	6.35	.21	.4158	.0175	1.12	76.	79.	76.
60.000	.2355	.0142	1.28	253.29	7.57	.27	.3237	.0132	1.02	62.	63.	62.
62.000	.1771	.0091	1.49	248.02	8.04	.78	.2492	.0071	.68	42.	44.	42.
64.000	.1324	.0048	.08	240.13	7.45	.72	.1927	.0059	.00	33.	34.	33.
66.000	.0939	.0039	.05	233.91	7.01	.06	.1485	.0047	-.22	32.	32.	32.
68.000	.0746	.0034	.08	224.50	9.94	-.07	.1157	.0042	-.69	32.	32.	32.
70.000	.0549	.0028	.12	218.33	7.44	.19	.0875	.0032	.02	29.	29.	29.

TABLE II-10. THERMODYNAMIC STATISTICAL PARAMETERS

OCTOBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1014.7000	4.3215	.16	286.84	7.04	.52	1230.0000	34.3300	-.20	273.	273.	273.
.705	932.8700	3.3662	.13	286.53	5.09	.51	1132.0000	21.4500	-.21	283.	283.	283.
1.000	902.9500	3.4090	.04	290.27	4.44	-.30	1091.0000	16.5500	.21	288.	288.	288.
2.000	802.5600	3.9046	-.51	285.91	4.90	-.79	976.2000	14.2900	.75	293.	293.	293.
3.000	711.5500	4.5809	-.76	279.61	4.71	-1.05	895.4000	11.2000	.94	293.	293.	293.
4.000	629.0100	5.1876	-.94	273.44	4.58	-1.22	803.7000	8.9370	1.00	293.	293.	293.
5.000	554.4300	5.5716	-1.09	266.70	4.45	-1.24	723.7000	7.2070	.62	293.	293.	293.
6.000	487.3700	5.7258	-1.26	259.78	4.33	-1.59	653.2000	5.8870	1.13	293.	293.	293.
7.000	426.6900	5.8162	-1.34	252.75	4.00	-1.40	587.9000	4.4630	-.25	292.	292.	292.
8.000	372.1000	5.7651	[illegible]	[illegible]	[illegible]	-1.06	528.2000	[illegible]	-.72	292.	292.	292.
9.000	323.1500	5.5609	-1.34	237.76	3.39	-.44	473.3000	5.3160	-1.12	292.	292.	292.
10.000	279.5100	5.1480	-1.23	230.63	3.04	-.06	422.1000	6.9430	-1.80	290.	290.	290.
11.000	240.7200	4.6136	-1.05	224.18	3.25	.38	374.1000	8.1880	-1.73	290.	290.	290.
12.000	206.4300	3.9213	-.89	218.88	3.56	.47	328.6000	8.4350	-1.48	290.	290.	290.
13.000	176.4500	3.3299	-.70	214.55	3.47	.48	286.6000	7.8150	-1.11	290.	290.	290.
14.000	150.4300	2.6989	-.58	211.20	3.26	.49	248.2000	6.9410	-.78	290.	290.	290.
15.000	127.9200	2.1547	-.51	208.43	3.22	.67	213.9000	5.9770	-.66	287.	287.	287.
16.000	108.5700	1.6692	-.48	206.70	3.39	.60	183.1000	5.0210	-.53	285.	285.	285.
17.000	92.2050	1.2622	-.54	206.34	3.39	.41	155.7000	4.0480	-.48	270.	270.	270.
18.000	78.2200	.9897	-.50	207.39	3.03	.17	131.4000	2.9120	-.31	267.	267.	267.
19.000	66.4940	.8107	-.47	209.63	2.42	.22	110.5000	1.8810	-.60	263.	263.	263.
20.000	56.6040	.7050	-.37	211.72	2.21	.12	93.1500	1.3000	-.51	261.	261.	261.
21.000	48.3270	.6051	-.34	213.79	2.13	.12	78.7500	.9344	-.40	223.	223.	223.
22.000	41.2730	.5514	-.29	215.75	2.13	-.23	66.6500	.7953	-.72	222.	222.	222.
23.000	35.3080	.4972	-.30	217.43	1.91	-.16	56.5700	.6113	-.46	221.	221.	221.
24.000	30.1860	.4696	-.24	218.87	2.03	-.08	48.0500	.5679	-.32	232.	232.	232.
25.000	25.8750	.4238	-.17	220.27	2.16	-.32	40.9200	.4924	-.27	229.	229.	229.
26.000	22.2060	.3893	-.20	221.74	2.22	-.28	34.8900	.4218	-.17	226.	226.	226.
27.000	19.1120	.3297	-.31	223.34	2.22	.03	29.8100	.3592	-.15	199.	199.	199.
28.000	16.4390	.2988	-.23	224.46	2.28	-.06	25.5100	.3227	-.36	195.	195.	195.
29.000	14.1570	.2678	-.12	225.68	2.43	.10	21.8500	.2902	-.31	174.	174.	174.
30.000	12.1970	.2462	-.05	[illegible]	2.47	-.01	16.7500	.2601	-.40	173.	173.	173.
32.000	9.1563	.2134	.02	231.38	4.41	1.11	13.7900	.2415	-.36	102.	105.	101.
34.000	6.8525	.1845	.07	234.80	4.20	.15	10.1700	.1945	-.10	104.	107.	104.
36.000	5.1546	.1564	.12	239.05	3.89	.21	7.5110	.1710	-.32	104.	107.	104.
38.000	3.9025	.1328	.18	243.93	4.58	-.13	5.5740	.1562	.21	106.	109.	106.
40.000	2.9687	.1087	.17	249.95	5.00	-.18	4.1380	.1279	.49	106.	109.	106.
42.000	2.2734	.0901	.13	255.69	5.35	-.24	3.0980	.1069	.29	107.	110.	107.
44.000	1.7523	.0741	.05	260.87	5.65	-.53	2.3410	.0932	.38	107.	110.	107.
46.000	1.3556	.0611	-.01	265.09	5.72	-.20	1.7820	.0620	.36	105.	108.	105.
48.000	1.0525	.0511	-.05	266.85	5.50	-.45	1.3740	.0535	.20	105.	105.	105.
50.000	.8193	.0415	-.08	266.85	6.10	-.24	1.0690	.0473	.06	102.	103.	102.
52.000	.6365	.0343	-.08	266.09	6.14	-.06	.8336	.0365	.06	101.	105.	101.
54.000	.4943	.0286	-.10	264.08	6.78	.22	.6516	.0280	.01	100.	100.	100.
56.000	.3829	.0239	-.07	262.22	6.31	.18	.5087	.0251	-.13	99.	102.	99.
58.000	.2962	.0202	-.05	259.71	5.96	-.19	.3969	.0209	-.03	94.	97.	94.
60.000	.2253	.0170	.20	255.41	6.54	.51	.3073	.0183	.05	69.	73.	69.
62.000	.1717	.0142	.33	250.43	8.31	.57	.2392	.0158	-.04	55.	59.	55.
64.000	.1282	.0087	-.05	243.30	10.54	1.54	.1843	.0114	-.46	39.	42.	39.
66.000	.0961	.0062	-.31	235.37	6.43	.33	.1421	.0088	-.20	37.	39.	37.
68.000	.0712	.0045	-.29	225.47	10.01	.29	.1103	.0088	-.14	34.	36.	34.
70.000	.0525	.0034	-.04	220.13	9.75	-.13	.0833	.0064	-.21	31.	33.	31.

TABLE II-11. THERMODYNAMIC STATISTICAL PARAMETERS

NOVEMBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1018.1000	5.7221	-.07	280.15	7.27	.30	1264.0000	38.8700	.02	326.	326.	326.
.705	934.3100	4.3031	-.36	280.28	5.16	.42	1153.0000	23.9500	.03	332.	332.	332.
1.000	903.2400	4.1820	-.53	284.12	4.66	-.08	1105.0000	18.3600	.32	340.	340.	340.
2.000	801.0600	4.5218	-.78	280.68	5.28	-.38	992.9000	15.8500	.35	347.	347.	347.
3.000	708.8900	5.2007	-.81	275.80	5.30	-.87	834.5000	12.5400	.97	347.	347	347.
4.000	625.3900	5.9236	-.88	270.09	5.11	-.99	806.2000	9.5420	1.06	347.	347.	347.
5.000	550.4100	6.3549	-.95	263.68	4.85	-.99	725.9000	7.1940	.64	347.	347.	347.
6.000	483.2800	6.7543	-.95	256.90	4.63	-.90	655.1000	5.4370	.57	346.	346.	346.
7.000	422.4300	6.7463	-.96	249.80	4.46	-.85	583.0000	4.8170	-.23	345.	345.	345.
8.000	367.8100	6.6720	-.91	242.24	4.23	-.55	528.9000	5.0390	-1.32	343.	343.	343.
9.000	318.8600	5.3865	-.82	234.76	3.77	-.30	473.1000	6.3250	-2.07	343.	343.	343.
10.000	275.2800	5.9421	-.66	227.62	3.39	.13	421.3000	7.8080	-1.94	339.	339.	339.
11.000	236.5800	5.3401	-.50	221.17	3.35	.55	372.7000	9.1640	-1.51	335.	335.	335.
12.000	202.5200	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.09	[illegible]	[illegible]	[illegible]
13.000	172.7600	3.7329	-.13	212.56	4.35	.06	293.3000	9.6620	-.56	328.	328.	328.
14.000	147.1500	3.0277	-.03	210.47	3.93	.21	243.7000	8.2180	-.32	320.	320.	320.
15.000	125.0500	2.3766	.05	208.45	3.87	.46	209.1000	7.0390	-.12	315.	315.	315.
16.000	106.1300	1.7578	.01	207.11	3.68	.24	178.6000	5.6530	-.02	310.	310.	310.
17.000	90.0910	1.3986	-.10	206.83	3.85	.03	151.8000	4.5040	.08	291.	291.	291.
18.000	76.4490	1.0198	-.16	207.29	3.63	-.12	128.5000	3.3310	.21	290.	290.	290.
19.000	64.9600	.8039	-.20	208.62	2.84	.02	108.4000	2.2070	-.09	279.	279.	279.
20.000	55.2460	.6748	-.16	210.20	2.25	-.16	91.5700	1.4760	-.28	275.	275.	275.
21.000	47.1200	.5665	-.20	211.79	1.99	-.31	77.5100	1.0980	-.37	210.	210.	210.
22.000	40.1670	.4964	-.04	213.07	2.06	-.22	65.6800	.8598	-.28	206.	206.	206.
23.000	34.2910	.4515	.01	214.64	2.02	-.10	55.6600	.6891	-.45	202.	202.	202.
24.000	29.2480	.4090	.10	216.02	2.29	-.01	47.1700	.5833	-.25	221.	221.	221.
25.000	25.0330	.3705	.20	217.47	2.59	-.01	40.1000	.4975	.00	216.	216.	216.
26.000	21.4310	.3441	.13	218.66	2.78	.01	34.1500	.4306	-.13	211.	211.	211.
27.000	18.4300	.3174	-.01	220.12	3.08	.08	29.1700	.3841	-.74	167.	167.	157.
28.000	15.8240	.2963	-.03	221.46	3.23	.19	24.8300	.3366	-.28	159.	159.	153.
29.000	13.5830	.2779	.01	222.73	3.30	.22	21.2400	.3078	-.05	137.	137.	137.
30.000	11.6740	.2583	.02	223.96	3.34	.11	18.1600	.2950	-.16	136.	136.	136.
32.000	8.7739	.2071	.49	228.78	3.80	.62	13.4000	.2330	.14	79.	84.	75.
34.000	6.5594	.1676	.74	232.95	4.12	.29	9.8210	.2268	.00	81.	86.	79.
36.000	4.9243	.1352	.85	237.49	5.73	.19	7.2260	.2072	.27	82.	87.	82.
38.000	3.7220	.1157	.86	241.56	6.44	.13	5.3700	.1819	.77	84.	89.	84.
40.000	2.8246	.0951	.89	247.29	6.04	.53	3.9810	.1302	.39	84.	89.	84.
42.000	2.1567	.0818	.86	252.48	7.23	-.58	2.3770	.1070	.60	83.	88.	83.
44.000	1.6575	.0675	1.01	257.69	6.89	-.56	2.2400	.0863	.39	83.	87.	83.
46.000	1.2796	.0560	.96	261.52	6.84	-.46	1.7020	.0565	.69	83.	85.	83.
48.000	.9915	.0469	.79	264.45	6.72	-.52	1.3050	.0534	.97	82.	85.	82.
50.000	.7696	.0399	.62	264.92	6.63	-.35	1.0100	.0466	.96	81.	82.	81.
52.000	.5970	.0321	.52	264.80	6.54	-.28	.7846	.0374	.87	79.	83.	79.
54.000	.4629	.0273	.33	263.26	6.33	-.31	.6121	.0317	.15	77.	82.	77.
56.000	.3590	.0220	.47	261.83	6.93	-.48	.4770	.0258	.36	75.	80.	75.
58.000	.2783	.0179	.52	260.23	7.52	-.24	.3719	.0201	.16	73.	75.	73.
60.000	.2144	.0153	.60	257.09	9.25	.12	.2903	.0147	.36	57.	61.	57.
62.000	.1639	.0135	.61	252.49	10.34	.45	.2259	.0134	.28	37.	39.	37.
64.000	.1225	.0100	.64	243.05	8.50	.16	.1750	.0116	.17	26.	27.	26.
66.000	.0914	.0069	.68	235.97	11.19	.28	.1351	.0092	.05	25.	26.	25.
68.000	.0683	.0057	.80	225.93	13.19	.49	.1054	.0074	-.13	25.	26.	25.
70.000	.0505	.0047	.96	218.76	10.89	.39	.0802	.0062	.21	24.	25.	24.

TABLE II-12. THERMODYNAMIC STATISTICAL PARAMETERS

DECEMBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1020.7000	6.9766	-.38	275.03	7.37	.08	1292.0000	41.7800	-.05	282.	282.	282.
.705	925.2300	5.5419	-.36	275.84	4.87	.24	1179.0000	24.3500	-.20	293.	293.	293.
1.000	903.7100	5.3987	-.35	279.94	4.35	-.43	1123.0000	18.1900	.35	313.	313.	313.
2.000	800.1200	5.6978	-.60	277.28	5.82	-.69	1004.0000	17.6400	.68	317.	317.	317.
3.000	706.8900	6.5173	-.71	272.79	6.26	-.98	902.2000	14.6400	.99	317.	317.	317.
4.000	622.9100	7.4192	-.85	267.07	6.11	-1.10	812.2000	11.0700	.91	317.	317.	317.
5.000	547.4000	7.9425	-.94	260.49	5.80	-1.14	731.8000	8.2470	.63	317.	317.	317.
6.000	479.8300	8.2462	-1.01	253.63	5.43	-1.06	658.9000	6.2190	.25	316.	316.	316.
7.000	418.5800	8.1948	-1.00	246.41	5.11	-.77	591.7000	5.7620	-.23	315.	315.	315.
8.000	363.8400	8.0460	-.97	239.01	4.65	-.44	530.2000	6.6750	-1.29	313.	313.	313.
9.000	314.7700	7.5817	-.82	231.58	4.03	-.05	473.5000	8.0580	-1.81	311.	311.	311.
10.000	271.3000	6.6877	-.67	224.95	3.70	.36	420.2000	10.1500	-1.74	306.	306.	306.
11.000	232.7600	6.0635	-.47	219.53	4.07	.65	369.5000	11.6300	-1.26	303.	303.	303.
12.000	199.1300	5.1370	-.28	215.94	5.15	.27	321.5000	12.3100	-.69	300.	300.	300.
13.000	169.9300	4.2213	-.05	214.31	5.14	-.23	276.4000	10.9700	-.29	296.	296.	296.
14.000	144.9800	3.4320	.09	212.56	4.26	.08	237.8000	8.8790	-.18	287.	287.	287.
15.000	123.4200	2.7228	.16	210.61	4.16	.36	204.3000	7.6120	-.08	280.	280.	280.
16.000	104.9400	2.0774	.23	208.76	4.40	.23	175.2000	6.4590	.04	279.	279.	279.
17.000	89.1830	1.5514	.24	207.83	4.40	.05	149.6000	5.2450	.15	260.	260.	260.
18.000	75.7260	1.1503	.21	209.17	4.08	-.07	126.8000	3.9270	.26	257.	257.	257.
19.000	64.4210	.8576	.17	209.18	3.54	-.14	107.3300	2.7970	.25	245.	245.	245.
20.000	54.7850	.6892	.21	210.45	2.81	-.02	90.7100	1.8830	.24	236.	236.	236.
21.000	46.7090	.5627	.12	211.75	2.54	.13	76.8600	1.3680	.11	191.	191.	191.
22.000	39.8180	.4715	.09	213.10	2.63	.37	65.1000	1.0750	-.14	187.	187.	187.
23.000	33.9920	.4184	.05	214.41	2.79	.23	55.2400	.8254	-.04	185.	185.	185.
24.000	28.9980	.3898	-.06	215.56	3.01	.19	46.6500	.6399	.06	209.	209.	209.
25.000	24.8090	.3612	-.15	216.84	3.32	.33	39.8600	.5374	.02	199.	199.	199.
26.000	21.2310	.3418	-.13	217.74	3.50	.28	33.9700	.4630	-.15	197.	197.	197.
27.000	18.2250	.3211	-.07	219.09	3.76	.45	28.9600	.4222	-.25	154.	154.	154.
28.000	15.6330	.3022	-.01	220.60	4.18	.40	24.6900	.4002	-.24	145.	145.	145.
29.000	13.4390	.2859	.01	222.17	4.01	.69	21.0700	.3329	.08	107.	107.	107.
30.000	[illegible]	[illegible]	.03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.18	106.	106.	106.
32.000	8.7158	.2147	.81	227.70	4.65	.64	13.3500	.2828	-.17	127.	130.	124.
34.000	6.5006	.1812	.89	232.13	6.10	.46	9.7640	.2678	-.04	126.	129.	125.
36.000	4.8752	.1521	.94	236.41	6.73	.45	7.1880	.2350	.08	126.	129.	126.
38.000	3.6743	.1261	.91	242.00	8.81	.44	5.2930	.2031	.54	125.	129.	125.
40.000	2.7901	.1080	.78	247.40	9.47	.00	3.9310	.1622	.82	125.	129.	125.
42.000	2.1317	.0932	.64	254.25	10.51	-.13	2.9240	.1268	.88	126.	131.	126.
44.000	1.6419	.0810	.43	261.04	9.86	-.39	2.1890	.0970	.85	126.	127.	126.
46.000	1.2724	.0632	.30	266.04	10.18	-.25	1.6670	.0766	.49	126.	129.	126.
48.000	.9890	.0589	.22	267.88	9.92	-.04	1.2860	.0645	.27	126.	129.	126.
50.000	.7701	.0503	.13	267.97	9.03	-.35	1.0000	.0548	.28	125.	124.	125.
52.000	.5991	.0415	.11	266.33	7.94	-.62	.7829	.0459	.09	125.	123.	125.
54.000	.4651	.0338	.10	263.71	6.80	-.60	.6143	.0397	.04	125.	128.	125.
56.000	.3599	.0274	.15	261.18	6.59	-.46	.4798	.0347	.03	119.	121.	119.
58.000	.2787	.0214	.28	258.69	7.51	.21	.3751	.0278	-.11	107.	109.	107.
60.000	.2141	.0170	.58	255.93	9.94	.01	.2920	.0217	-.11	79.	84.	79.
62.000	.1654	.0134	1.20	251.01	12.67	.22	.2307	.0162	.21	43.	47.	43.
64.000	.1253	.0114	1.91	243.10	14.74	.91	.1798	.0119	.30	32.	33.	32.
66.000	.0943	.0102	2.18	239.28	16.60	1.17	.1374	.0093	.41	31.	32.	31.
68.000	.0715	.0095	2.18	231.61	22.40	1.43	.1077	.0090	.58	28.	29.	28.
70.000	.0540	.0089	2.10	225.68	23.65	1.16	.0834	.0102	.89	26.	27.	26.

TABLE II-13. THERMODYNAMIC STATISTICAL PARAMETERS

ANNUAL

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	MEAN P MB	S.D. P MB	SKEW P -	MEAN T DEG K	S.D. T DEG K	SKEW T	MEAN D G/M3	S.D. D G/M3	SKEW D	NOBS P	NOBS T	NOBS D
.000	1014.3000	6.6607	.66	286.42	10.41	.07	1232.0000	52.7700	.26	3674.	3674.	3674.
.705	932.2600	4.4603	.48	285.49	8.73	.18	1136.0000	38.2700	.10	3908.	3908.	3908.
1.000	901.8[illegible]	4.2189	.07	287.77	8.02	.09	1090.0000	31.7900	.03	4052.	4052.	4052.
2.000	800.[illegible]	4.5675	-.75	283.45	7.94	-.16	983.0000	25.1700	.17	4158.	4158.	4158.
3.000	709.[illegible]	5.7639	-.74	277.56	7.18	-.33	883.3000	17.9500	.33	4157.	4157.	4157.
4.000	626.2100	6.9009	-.73	271.21	6.64	-.53	803.8000	12.7200	.40	4156.	4156.	4156.
5.000	551.4200	7.6629	-.72	264.47	6.41	-.53	726.0000	9.4997	.30	4153.	4153.	4153.
6.000	484.2300	8.1802	-.70	257.52	6.31	-.50	654.8000	7.1940	.28	4141.	4141.	4141.
7.000	423.3300	8.4269	-.66	250.31	6.38	-.40	589.0000	5.8470	.14	4130.	4130.	4130.
8.000	368.7600	8.5820	-.60	242.66	6.43	-.19	528.8000	5.2970	-.36	4109.	4109.	4109.
9.000	312.7800	8.5164	-.47	235.35	6.26	.02	473.2000	5.7050	-1.40	4105.	4105.	4105.
10.000	276.1800	8.3112	-.34	228.31	5.92	.14	421.3000	7.2390	-2.01	4076.	4076.	4076.
11.000	237.5200	7.8374	-.18	222.30	5.44	.11	372.2000	9.2570	-1.69	4055.	4055.	4055.
12.000	203.5000	7.0497	-.05	217.67	5.20	-.26	325.8000	10.9600	-1.13	4033.	4033.	4033.
13.000	173.8700	6.1855	.08	214.66	4.39	-.37	282.0000	11.5700	-.51	4003.	4003.	4003.
14.000	148.3600	5.1729	.13	212.56	3.91	.19	243.3000	11.1500	-.07	3966.	3966.	3966.
15.000	126.3000	4.2060	.14	210.19	4.21	.20	203.5000	10.0500	.12	3923.	3923.	3923.
16.000	107.3600	3.3646	.15	208.65	4.28	.14	179.4000	8.2410	.13	3901.	3901.	3901.
17.000	91.2550	2.7280	.14	208.38	4.01	.07	152.7000	6.3740	.05	3713.	3713.	3713.
18.000	77.5450	2.2516	.17	209.16	3.55	-.13	129.2000	4.5930	-.03	3685.	3685.	3685.
19.000	66.0030	1.9598	.20	210.78	3.10	-.38	109.1000	3.2640	-.05	3599.	3599.	3599.
20.000	56.2430	1.6779	.21	212.47	3.00	-.47	92.2100	2.4300	.00	3536.	3536.	3536.
21.000	48.0770	1.4922	.16	214.47	3.02	-.46	78.0900	1.9200	.01	2869.	2869.	2369.
22.000	41.0740	1.3291	.17	216.04	3.13	-.51	66.2300	1.6100	.05	2790.	2790.	2790.
23.000	35.1400	1.1941	.14	217.56	3.20	-.52	56.2600	1.3910	.07	2753.	2753.	2753.
24.000	29.9940	1.0866	.22	218.75	3.55	-.52	47.7600	1.2180	.18	2980.	2930.	2380.
25.000	25.7580	.9716	.11	220.28	3.68	-.53	40.7300	1.0810	.09	3068.	3069.	3068.
26.000	22.1010	.8779	.09	221.74	3.90	-.48	34.7100	.9611	.05	3017.	3017.	3017.
27.000	19.0530	.7855	.03	223.62	4.01	-.42	29.6700	.8589	-.01	2492.	2492.	2492.
28.000	16.4000	.7069	.03	225.22	4.18	-.46	25.3500	.7871	-.05	2394.	2394.	2394.
29.000	14.1630	.6404	-.04	226.91	4.29	-.32	21.7400	.7140	-.06	1994.	1994.	1994.
30.000	12.1960	.5806	-.04	228.37	4.42	-.39	18.6000	.6583	-.11	1961.	1961.	1961.
32.000	9.1077	.4367	.08	233.68	5.57	-.07	13.5900	.5425	-.10	1400.	1446.	[illegible]
34.000	6.8398	.3520	.06	238.18	6.02	-.23	10.0100	.4507	-.11	1411.	1459.	1402.
36.000	5.1674	.2832	.04	242.94	6.57	-.22	7.4120	.3733	-.20	1413.	1463.	1413.
38.000	3.9254	.2267	.00	247.88	7.23	-.25	5.5190	.2921	-.19	1421.	1475.	1421.
40.000	2.9985	.1820	-.05	253.38	7.41	-.44	4.1230	.2220	-.12	1420.	1473.	1420.
42.000	2.3046	.1488	-.12	258.91	7.51	-.64	3.1010	.1756	-.12	1420.	1473.	1420.
44.000	1.7810	.1205	-.16	263.57	6.94	-.60	2.3530	.1418	-.15	1416.	1448.	1416.
46.000	1.3815	.0972	-.19	266.27	6.89	-.32	1.8060	.1149	-.22	1410.	1419.	1410.
48.000	1.0735	.0786	-.19	267.34	6.72	-.45	1.3980	.0913	-.25	1402.	1402.	1402.
50.000	.8348	.0633	-.20	266.06	6.63	-.42	1.0890	.0724	-.29	1387.	1383.	1387.
52.000	.6464	.0514	-.19	265.31	6.52	-.43	.8506	.0589	-.31	1365.	1378.	1365.
54.000	.5027	.0416	-.16	263.06	6.39	-.20	.6652	.0488	-.31	1336.	1359.	1336.
56.000	.3888	.0332	-.08	260.64	6.76	-.19	.5197	.0402	-.27	1283.	1330.	1203.
58.000	.2995	.0261	.01	257.84	7.18	-.21	.4047	.0328	-.14	1140.	1182.	1140.
60.000	.2289	.0203	.05	254.27	8.63	-.05	.3139	.0258	-.12	842.	881.	842.
62.000	.1738	.0154	.10	248.47	9.94	.26	.2440	.0204	-.02	560.	590.	560.
64.000	.1305	.0114	.11	240.89	10.43	.77	.1891	.0162	-.07	427.	445.	427.
66.000	.0981	.0087	.18	234.41	11.27	1.03	.1461	.0129	.09	396.	407.	396.
68.000	.0733	.0069	.33	225.21	13.52	1.23	.1136	.0106	-.07	387.	392.	387.
70.000	.0539	.0053	.89	218.45	13.05	1.22	.0861	.0086	.02	345.	350.	345.

TABLE III-1. MOISTURE RELATED STATISTICAL PARAMETERS

JANUARY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	VAPOR P MEAN MB	S.D. VP MB	SKEW VP	TV MEAN DEG K	TV S.D. DEG K	SKEW TV	DEWPT T MEAN DEG K	S.D. DPT DEG K	SKEW DPT	NOBS T+P	NOBS TV
.000	4.302	2.798	1.12	275.83	7.47	-.07	265.77	9.39	-.58	318.	318.
.705	4.122	2.125	.73	276.06	4.86	.02	266.13	7.57	-.71	331.	333.
1.000	4.090	1.879	.94	279.90	4.45	.00	266.51	6.27	-.39	346.	350.
2.000	2.715	1.368	1.02	276.85	5.27	-.38	261.10	6.44	-.21	345.	358.
3.000	1.807	1.059	1.29	272.33	5.27	-.80	255.79	6.91	-.09	340.	358.
4.000	1.126	.706	1.33	266.48	5.15	-.85	250.08	7.09	-.10	335.	358.
5.000	.674	.465	1.51	259.88	4.88	-.76	244.09	7.48	-.18	332.	356.
6.000	.397	.273	1.10	252.93	4.61	-.70	238.39	7.65	-.39	325.	353.
7.000	.223	.150	1.31	245.42	4.52	-.54	232.76	7.39	-.70	284.	349.
8.000	.124	.085	1.33	237.68	4.30	-.37	227.24	7.33	-.92	208.	342.
9.000	.066	.040	1.25	229.99	3.84	-.08	222.44	5.22	-.03	92.	343.
10.000	.023	.012	1.03	222.96	3.41	.19	214.25	3.87	.26	72.	343.
11.000	.010	.005	1.22	217.85	3.90	.67	207.83	3.43	.34	56.	341.
12.000	.005	.004	.65	214.75	5.59	.32	202.84	5.35	-.41	56.	339.
13.000	.005	.003	.20	214.13	5.32	-.22	202.32	4.60	-.74	54.	338.
14.000	.004	.002	.39	213.24	4.10	-.24	200.14	5.18	-.55	37.	332.
15.000	.002	.001	1.41	211.23	3.71	.05	195.81	4.61	.37	23.	331.
16.000	99.999	99.999	999.99	209.31	3.96	-.05	999.99	99.99	999.99	0.	330.
17.000	99.999	99.999	999.99	208.50	4.33	-.09	999.99	99.99	999.99	0.	321.
18.000	99.999	99.999	999.99	208.50	4.18	-.17	999.99	99.99	999.99	0.	317.
19.000	99.999	99.999	999.99	209.46	3.73	-.43	999.99	99.99	999.99	0.	309.
20.000	99.999	99.999	999.99	210.74	3.44	-.68	999.99	99.99	999.99	0.	302.
21.000	99.999	99.999	999.99	212.48	2.95	-.28	999.99	99.99	999.99	0.	245.
22.000	99.999	99.999	999.99	213.81	2.81	-.50	999.99	99.99	999.99	0.	238.
23.000	99.999	99.999	999.99	215.13	2.94	-.58	999.99	99.99	999.99	0.	236.
24.000	99.999	99.999	999.99	215.88	3.72	-.68	999.99	99.99	999.99	0.	273.
25.000	99.999	99.999	999.99	216.84	3.77	-.74	999.99	99.99	999.99	0.	263.
26.000	99.999	99.999	999.99	217.96	3.77	-.57	999.99	99.99	999.99	0.	256.
27.000	99.999	99.999	999.99	219.61	3.67	.13	999.99	99.99	999.99	0.	205.
28.000	99.999	99.999	999.99	220.93	4.14	.42	999.99	99.99	999.99	0.	195.
29.000	99.999	99.999	999.99	221.99	4.04	.09	999.99	99.99	999.99	0.	139.
30.000	99.999	99.999	999.99	223.43	4.40	-.19	999.99	99.99	999.99	0.	142.

TABLE III-2. MOISTURE RELATED STATISTICAL PARAMETERS

FEBRUARY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	VAPOR P MEAN MB	S.D. VP MB	SKEW VP	TV MEAN DEG K	TV S.D. DEG K	SKEW TV	DEWPT T MEAN DEG K	S.D. DPT DEG K	SKEW DPT	NOBS T+P	NOBS TV
.000	5.019	3.055	.93	279.26	6.80	.10	268.19	8.59	-.24	290.	290.
.705	4.625	2.239	.50	278.80	4.71	.19	267.82	7.19	-.55	303.	304.
1.000	4.473	2.050	.39	282.08	4.06	.11	267.57	6.64	-.41	314.	319.
2.000	2.784	1.502	.77	277.65	4.86	-.12	261.14	7.07	-.18	313.	325.
3.000	1.703	1.123	1.24	272.49	4.63	-.47	254.58	7.85	-.05	299.	324.
4.000	1.026	.685	1.20	266.52	4.36	-.73	248.68	7.77	-.21	291.	323.
5.000	.634	.444	1.37	259.68	4.24	-.85	243.17	8.06	-.41	294.	324.
6.000	.396	.290	1.54	252.50	4.26	-1.03	238.02	8.32	-.56	287.	323.
7.000	.229	.169	1.50	244.97	4.33	-.65	230.01	8.16	-.69	257.	322.
8.000	.125	.085	1.37	237.21	4.16	-.59	227.40	7.15	-.87	196.	321.
9.000	.059	.040	1.06	229.66	3.78	-.01	221.15	6.05	-.24	74.	321.
10.000	.022	.014	1.04	222.76	3.61	.44	213.60	4.78	.11	57.	320.
11.000	.011	.006	1.27	217.81	4.16	.83	208.42	4.17	.08	51.	320.
12.000	.009	.007	1.02	215.11	5.81	.29	205.90	5.77	-.17	49.	314.
13.000	.008	.005	.77	215.02	5.10	-.52	206.15	5.23	-1.17	51.	314.
14.000	.006	.003	.81	213.89	3.72	-.39	203.96	4.32	-.66	44.	313.
15.000	.003	.002	.27	211.60	3.51	-.02	199.84	4.73	-.36	35.	312.
16.000	99.999	99.999	999.99	209.54	3.74	-.13	999.99	99.99	999.99	0.	311.
17.000	99.999	99.999	999.99	208.46	3.67	-.29	999.99	99.99	999.99	0.	296.
18.000	99.999	99.399	999.99	208.29	3.53	-.05	999.99	99.99	999.99	0.	295.
19 000	99.999	99.999	999.99	209.25	3.23	-.07	999.99	99.99	993.99	0.	288.
20.000	99.999	99.939	999.99	210.32	3.12	-.16	999.99	99.99	999.99	0.	282.
21.000	99.999	99.999	999.99	211.77	3.20	-.30	999.99	99.99	909.99	0.	217.
22.000	99.999	99.999	999.99	213.22	3.12	-.29	999.99	99.99	999.99	0.	204.
23.000	99.999	99.999	999.99	214.60	3.09	-.37	999.99	99.99	999.99	0.	201.
24.000	99.999	99.999	999.99	215.65	3.18	-.14	999.99	99.99	999.99	0.	239.
25.000	99.999	99.999	999.99	217.11	3.11	-.27	999.99	99.99	999.99	0.	231.
26.000	99.999	99.999	999.99	218.62	3.18	-.17	999.99	99.99	999.99	0.	229.
27.000	99.999	99.999	999.99	220.47	3.14	-.27	999.99	99.99	999.99	0.	176.
28.000	99.999	99.999	999.99	[illegible]	3.35	-.19	999.99	99.99	999.99	0.	170.
29.000	99.999	99.999	999.99	223.94	3.35	.13	999.99	99.99	999.99	0.	131.
30.000	99.999	99.999	999.99	225.75	3.51	.26	999.99	99.99	999.99	0.	131.

TABLE III-3. MOISTURE RELATED STATISTICAL PARAMETERS

MARCH

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	VAPOR P MEAN MB	S.D. VP MB	SKEW VP	TV MEAN DEG K	TV S.D. DEG K	SKEW TV	DEWPT T MEAN DEG K	S.D. DPT DEG K	SKEW DPT	NOBS T+P	NOBS TV
.000	6.553	3.230	.51	283.83	6.71	.25	272.39	7.74	-.60	392.	392.
.705	5.626	2.416	.34	281.83	5.00	.36	270.70	6.74	-.79	415.	415.
1.000	4.958	2.031	.45	282.96	4.81	.20	269.19	6.12	-.68	418.	426.
2.000	2.901	1.489	1.16	277.89	5.52	-.14	261.87	6.60	-.23	418.	442.
3.000	1.739	1.070	1.37	272.17	5.32	-.53	255.09	7.42	-.19	403.	442.
4.000	1.060	.714	1.71	266.11	5.00	-.65	249.15	7.57	-.25	393.	442.
5.000	.668	.472	1.68	259.35	4.79	-.61	243.93	7.56	-.21	386.	441.
6.000	.382	.282	1.60	252.33	4.61	-.64	237.89	7.76	-.39	377.	439.
7.000	.214	.168	1.71	244.85	4.54	-.53	231.97	7.86	-.46	336.	439.
8.000	.117	.083	1.57	237.15	4.26	-.44	226.84	6.79	-.50	249.	437.
9.000	.054	.039	1.49	229.51	3.69	-.10	220.32	5.92	.09	115.	437.
10.000	.018	.010	.98	222.83	3 25	.24	212.24	4.36	.00	90.	434.
11.000	.009	.005	.89	217.69	3.75	.73	207.21	4.01	-.19	77.	[illegible]
12:000	.007	.006	2.40	215.00	5.36	.24	204.05	5.57	.18	77.	426.
13.000	.007	.005	1.32	214.65	5.20	-.50	204.47	4.99	-.19	71.	422.
14.000	.005	.003	1.20	214.02	3.80	-.42	203.56	3.50	.16	65.	417.
15.000	.004	.002	1.45	212.36	3.50	-.21	202.35	3.02	.53	45.	413.
16.000	99.999	99.999	999.99	210.77	3.34	-.12	999.99	99.99	999.99	0.	413.
17.000	99.999	99.999	999.99	210.35	3.32	-.34	999.99	99.99	999.99	0.	391.
18.000	99.999	99.999	999.99	210.38	3.26	-.32	999.99	99.99	999.99	0.	388.
19.000	99.999	99.999	999.99	211.03	3.07	-.32	999.99	99.99	999.99	0.	375.
20.000	99.999	99.999	999.99	211.99	2.77	-.30	999.99	99.99	999.99	0.	365.
21.000	99.999	99.999	999.99	213.62	2.32	-.04	999.99	99.99	999.99	0.	295.
22.000	99.999	99.999	999.99	214.78	2.62	-.20	999.99	99.99	999.99	0.	288.
23.000	99.999	99.999	999.99	216.11	2.65	-.03	999.99	99.99	999.99	0.	285.
24.000	99.999	99.999	999.99	217.06	3.04	.46	999.99	99.99	999.99	0.	321.
25.000	99.999	99.999	999.99	218.41	3.42	1.02	999.99	99.99	999.99	0.	316.
26.000	99.999	99.999	999.99	219.80	3.65	1.14	999.99	99.99	999.99	0.	313.
27.000	99.999	99.999	999.99	221.73	3.75	1.13	999.99	99.99	999.99	0.	254.
28.000	99.999	99.999	999.99	223.49	3.82	.82	999.99	99.99	999.99	0.	243.
29.000	99.999	99.999	999.99	225.27	3.68	.52	999.99	99.99	999.99	0.	199.
30.000	99.999	99.999	999.99	227.24	3.88	.38	999.99	99.99	999.99	0.	204.

TABLE III-4. MOISTURE RELATED STATISTICAL PARAMETERS

APRIL

STATION = 723810 EDWARDS AIR FORCE BASE

Z	VAPOR P MEAN	S.D. VP	SKEW VP	TV MEAN	TV S.D.	SKEW TV	DEWPT T MEAN	S.D. DPT	SKEW DPT	NOBS T+P	NOBS TV
KM	MB	MB		DEG K	DEG K		DEG K	DEG K			
.000	7.007	2.637	.24	286.27	6.37	.33	274.08	5.75	-.62	314.	314.
.705	5.972	2.105	.16	284.03	5.22	.60	272.01	5.26	-.55	340.	341.
1.000	5.263	1.693	.24	284.66	5.29	.20	270.46	4.61	-.45	350.	362.
2.000	2.998	1.312	.52	279.32	5.70	-.04	262.59	5.96	-.40	354.	380.
3.000	1.735	.947	.79	273.04	5.41	-.39	255.31	7.06	-.39	340.	380.
4.000	1.027	.657	1.73	266.94	5.21	-.67	249.07	6.98	-.10	327.	380.
5.000	.602	.394	1.16	260.29	4.96	-.87	242.96	7.33	-.27	328.	379.
6.000	.354	.260	1.66	253.27	4.85	-1.12	237.14	7.68	-.31	320.	378.
7.000	.202	.159	1.55	245.87	4.63	[illegible]	[illegible]	8.06	-.59	293.	[illegible]
8.000	.110	.083	1.56	238.36	3.95	-.34	225.96	7.37	-.56	242.	377.
9.000	.054	.040	2.18	230.91	3.36	-.02	220.51	5.53	.03	109.	375.
10.000	.020	.009	1.06	224.14	2.87	.51	213.32	3.60	-.16	86.	369.
11.000	.011	.006	1.98	218.77	3.73	.94	208.74	3.61	.07	71.	368.
12.000	.008	.005	1.55	215.21	5.29	.58	205.35	5.09	-.09	69.	364.
13.000	.008	.004	.93	214.76	5.32	-.08	206.00	3.86	-.37	67.	360.
14.000	.006	.002	.36	214.67	4.14	-.32	205.25	2.82	-.35	73.	354.
15.000	.005	.002	.29	213.29	3.44	-.09	203.72	2.66	-.33	62.	347.
16.000	99.999	99.999	999.99	212.01	3.57	.01	999.99	99.99	999.99	0.	347.
17.000	99.999	99.999	999.99	211.42	3.62	-.18	999.99	99.99	999.99	0.	334.
18.000	99.999	99.999	999.99	211.25	3.52	-.29	999.99	99.99	999.99	0.	330.
19.000	99.999	99.999	999.99	212.03	3.01	-.21	999.99	99.99	999.99	0.	321.
20.000	99.999	99.999	999.99	213.12	2.72	-.10	999.99	99.99	999.99	0.	314.
21.000	99.999	99.999	999.99	214.78	2.59	-.19	999.99	99.99	999.99	0.	245.
22.000	99.999	99.999	999.99	216.33	2.58	-.20	999.99	99.99	999.99	0.	241.
23.000	99.999	99.999	999.99	217.76	2.58	-.01	999.99	99.99	999.99	0.	236.
24.000	99.999	99.999	999.99	218.93	2.79	.22	999.99	99.99	999.99	0.	277.
25.000	99.999	99.999	999.99	220.41	2.98	.08	999.99	99.99	999.99	0.	271.
26.000	99.999	99.999	999.99	222.04	3.08	-.05	999.99	99.99	999.99	0.	269.
27.000	99.999	99.999	999.99	224.13	3.09	-.07	999.99	99.99	999.99	0.	215.
28.000	99.999	99.999	999.99	[illegible]	3.26	-.06	999.99	99.99	999.99	0.	208.
29.000	99.999	99.999	999.99	227.82	3.41	.23	999.99	99.99	999.99	0.	165.
30.000	99.999	99.999	999.99	229.72	3.67	.16	999.99	99.99	999.99	0.	165.

TABLE III-5. MOISTURE RELATED STATISTICAL PARAMETERS

MAY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	VAPOR P MEAN MB	S.D. VP MB	SKEW VP	TV MEAN DEG K	TV S.D. DEG K	SKEW TV	DEWPT T MEAN DEG K	S.D. DPT DEG K	SKEW DPT	NOBS T+P	NOBS TV
.000	8.705	2.956	.45	291.25	6.97	.89	277.35	5.16	-.51	265.	265.
.705	7.460	2.223	-.02	288.87	5.28	.54	275.31	4.62	-.76	298.	298.
1.000	6.547	2.014	.14	289.58	5.17	-.17	273.48	4.58	-.55	313.	316.
2.000	3.830	1.522	.45	284.53	5.42	-.53	265.92	5.55	-.45	294.	327.
3.000	2.336	1.057	.67	277.97	4.91	-.85	259.48	5.79	-.22	273.	327.
4.000	1.425	.745	1.07	271.18	4.72	-1.00	253.34	6.05	-.04	271.	327.
5.000	.801	.449	1.29	264.19	4.60	-1.10	246.74	5.96	.08	270.	327.
6.000	.458	.288	1.53	257.15	4.34	-1.00	240.42	6.64	-.35	260.	327.
7.000	.253	.159	1.43	249.81	4.03	-.90	234.41	6.69	-.75	242.	327.
8.000	.136	.096	2.11	242.19	3.88	-.64	228.37	6.55	-.57	212.	327.
9.000	.066	.040	1.79	234.53	3.47	-.44	222.42	5.72	-.97	128.	326.
10.000	[illegible]	.016	[illegible]	[illegible]	[illegible]	-.31	216.17	[illegible]	[illegible]	76.	326.
11.000	.013	.006	1.07	220.92	2.85	.48	210.39	3.12	-.13	70.	326.
12.000	.007	.004	1.44	216.04	3.72	.97	205.48	3.74	.04	70.	325.
13.000	.006	.004	1.50	214.14	4.49	.32	203.47	4.57	.11	64.	321.
14.000	.006	.003	1.03	214.21	3.93	-.19	204.12	3.56	-.07	53.	319.
15.000	.005	.002	1.08	213.35	3.43	-.13	202.80	2.91	.39	45.	317.
16.000	99.999	99.999	999.99	212.36	3.03	-.18	999.99	99.99	999.99	0.	316.
17.000	99.999	99.999	999.99	211.72	2.85	-.34	999.99	99.99	999.99	0.	309.
18.000	99.999	99.999	999.99	211.74	2.71	-.27	999.99	99.99	999.99	0.	308.
19.000	99.999	99.999	999.99	212.53	2.40	-.36	999.99	99.99	999.99	0.	305.
20.000	99.999	99.999	999.99	213.93	2.13	-.37	999.99	99.99	999.99	0.	297.
21.000	99.999	99.999	999.99	215.90	2.05	-.34	999.99	99.99	999.99	0.	244.
22.000	99.999	99.999	999.99	217.47	2.07	-.18	999.99	99.99	999.99	0.	242.
23.000	99.999	99.999	999.99	219.15	1.96	.07	999.99	99.99	999.99	0.	239.
24.000	99.999	99.999	999.99	220.50	2.19	.28	999.99	99.99	999.99	0.	265.
25.000	99.999	99.999	999.99	222.09	2.27	.49	999.99	99.99	999.99	0.	277.
26.000	99.999	99.999	999.99	223.04	2.39	.35	999.99	99.99	999.99	0.	272.
27.000	99.999	99.999	999.99	225.88	2.47	.41	999.99	99.99	999.99	0.	238.
28.000	99.999	99.999	999.99	227.63	2.61	.24	999.99	99.99	999.99	0.	232.
29.000	99.999	99.999	999.99	229.30	2.84	.14	999.99	99.99	999.99	0.	195.
30.000	99.999	99.999	999.99	231.10	2.94	.15	999.99	99.99	999.99	0.	192.

TABLE III-6. MOISTURE RELATED STATISTICAL PARAMETERS

JUNE

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	VAPOR P MEAN MB	S.D. VP MB	SKEW VP	TV MEAN DEG K	TV S.D. DEG K	SKEW TV	DEWPT T MEAN DEG K	S.D. DPT DEG K	SKEW DPT	NOBS T+P	NOBS TV
.000	9.579	3.300	.68	295.62	7.09	.74	278.72	5.19	-.45	317.	317.
.705	8.437	2.679	.52	293.73	5.62	.44	277.02	4.72	-.44	349.	349.
1.000	7.382	2.501	.53	294.90	5.58	-.35	275.05	4.92	-.30	351.	363.
2.000	4.407	1.867	.74	289.93	5.27	-.55	267.69	5.71	-.14	337.	369.
3.000	2.882	1.546	1.09	283.21	4.63	-.72	261.73	6.61	.09	330.	369.
4.000	1.794	1.083	1.10	276.05	4.35	-.82	255.61	6.99	.18	309.	369.
5.000	1.041	.696	1.46	269.07	4.31	-.87	249.14	6.93	.30	302.	369.
6.000	.562	.397	2.08	261.88	4.09	-.87	242.44	6.61	.30	291.	368.
7.000	.322	.224	2.06	254.56	4.10	-1.00	236.75	6.40	.07	286.	368.
8.000	.172	.124	2.19	247.00	4.10	-1.01	230.60	6.35	-.11	263.	368.
9.000	.088	.064	1.88	239.35	3.72	-.63	224.36	6.45	-.35	193.	368.
10.000	.039	.022	.85	231.98	3.29	-.17	217.81	5.74	-.78	90.	363.
11.000	.018	.007	.96	225.24	3.03	.00	212.90	2.87	-.39	62.	363.
12.000	.009	.003	.12	219.66	3.39	.15	207.99	2.55	-.75	62.	361.
13.000	.006	.003	.75	215.62	3.77	.32	204.16	3.25	-.09	60.	358.
14.000	.004	.002	.53	213.01	3.87	.42	202.40	3.42	-.30	50.	358.
15.000	.003	.001	.60	210.73	3.97	.21	200.81	2.59	.07	45.	353.
16.000	99.999	99.999	999.99	209.19	4.14	-.11	999.99	99.99	999.99	0.	350.
17.000	99.999	99.999	999.99	209.05	3.88	-.10	999.99	99.99	999.99	0.	324.
18.000	99.999	99.999	999.99	210.12	3.22	-.06	999.99	99.99	999.99	0.	322.
19.000	99.999	99.999	999.99	212.18	2.44	.05	999.99	99.99	999.99	0.	319.
20.000	99.999	99.999	999.99	214.36	2.12	.03	999.99	99.99	999.99	0.	316.
21.000	99.999	99.999	999.99	216.71	1.69	-.11	999.99	99.99	999.99	0.	262.
22.000	99.999	99.999	999.99	218.48	1.58	-.19	999.99	99.99	999.99	0.	257.
23.000	99.999	99.999	999.99	220.16	1.56	-.38	999.99	99.99	999.99	0.	255.
24.000	99.999	99.999	999.99	221.93	1.52	-.18	999.99	99.99	999.99	0.	254.
25.000	99.999	99.999	999.99	223.49	1.67	-.11	999.99	99.99	999.99	0.	280.
26.000	99.999	99.999	999.99	225.28	1.81	-.08	999.99	99.99	999.99	0.	277.
27.000	99.999	99.999	999.99	227.28	1.89	.23	999.99	99.99	999.99	0.	230.
28.000	99.999	99.999	999.99	229.10	1.94	.22	999.99	99.99	999.99	0.	223.
29.000	99.999	99.999	999.99	230.95	2.55	.93	999.99	99.99	999.99	0.	189.
30.000	99.999	99.999	999.99	232.48	2.55	.45	999.99	99.99	999.99	0.	184.

TABLE III-7. MOISTURE RELATED STATISTICAL PARAMETERS

JULY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	VAPOR P MEAN MB	S.D. VP MB	SKEW VP	TV MEAN DEG K	TV S.D. DEG K	SKEW TV	DEWPT T MEAN DEG K	S.D. DPT DEG K	SKEW DPT	NOBS T+P	NOBS TV
.000	9.949	4.210	1.57	298.96	6.32	.59	279.01	5.89	-.03	308.	308.
.705	8.836	3.521	1.69	297.36	4.34	.36	277.42	5.50	-.08	329.	329.
1.000	7.680	3.127	1.08	298.96	3.07	-.27	275.37	5.60	.04	327.	337.
2.000	5.075	2.397	1.04	294.17	2.83	-.43	269.40	6.08	.24	325.	345.
3.000	3.769	2.158	.85	287.10	2.36	-.31	264.86	7.35	.18	318.	345.
4.000	2.515	1.644	.90	279.58	1.98	-.31	259.23	8.07	.20	309.	345.
5.000	1.554	1.162	1.09	272.22	2.00	-.01	252.98	8.44	.33	306.	345.
6.000	.862	.708	1.30	265.04	2.07	.16	246.03	8.39	.43	303.	344.
7.000	.451	.389	1.71	258.13	2.08	.04	239.21	7.86	.43	296.	343.
8.000	.236	.196	1.60	251.13	2.33	-.23	232.81	7.72	.09	287.	341.
9.000	.117	.093	1.39	243.91	2.55	-.17	226.18	7.80	-.28	240.	341.
10.000	[illegible]	[illegible]	1.44	236.61	2.50	-.17	[illegible]	3.24	[illegible]	[illegible]	[illegible]
11.000	.034	.019	1.79	229.33	2.33	-.33	217.27	4.12	.18	50.	337.
12.000	.014	.007	1.91	222.56	2.18	-.25	210.64	3.37	.25	47.	336.
13.000	.006	.003	.92	216.25	2.15	.04	204.11	3.16	.19	43.	336.
14.000	.003	.001	.95	210.55	2.41	.25	199.90	2.96	-.05	33.	336.
15.000	.002	.001	.71	206.42	2.68	.41	197.06	2.84	.15	28.	331.
16.000	99.999	99.999	999.99	205.16	2.68	.19	999.99	99.99	999.99	0.	328.
17.000	99.999	99.999	999.99	206.11	2.52	-.09	999.99	99.99	999.99	0.	316.
18.000	99.999	99.999	999.99	208.66	2.40	-.19	999.99	99.99	999.99	0.	313.
19.000	99.999	99.999	999.99	211.61	2.13	-.36	999.99	99.99	999.99	0.	306.
20.000	99.999	99.999	999.99	214.20	2.00	-.23	999.99	99.99	999.99	0.	304.
21.000	99.999	99.999	999.99	216.91	1.74	-.20	999.99	99.99	999.99	0.	250.
22.000	99.999	99.999	999.99	218.87	1.45	-.72	999.99	99.99	999.99	0.	236.
23.000	99.999	99.999	999.99	220.56	1.45	-.39	999.99	99.99	999.99	0.	236.
24.000	99.999	99.999	999.99	222.13	1.56	-.21	999.99	99.99	999.99	0.	235.
25.000	99.999	99.999	999.99	223.43	1.74	-.14	999.99	99.99	999.99	0.	273.
26.000	99.999	99.999	999.99	225.04	1.86	-.21	999.99	99.99	999.99	0.	269.
27.000	99.999	99.999	999.99	226.86	2.13	-.28	999.99	99.99	999.99	0.	224.
28.000	99.999	99.999	999.99	228.62	2.15	-.22	999.99	99.99	999.99	0.	207.
29.000	99.999	99.999	999.99	230.35	2.43	-.10	999.99	99.99	999.99	0.	186.
30.000	99.999	99.999	999.99	231.79	2.46	-.12	999.99	99.99	999.99	0.	172.

TABLE III-8. MOISTURE RELATED STATISTICAL PARAMETERS

AUGUST

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	VAPOR P MEAN MB	S.D. VP MB	SKEW VP	TV MEAN DEG K	TV S.D. DEG K	SKEW TV	DEWPT T MEAN DEG K	S.D. DPT DEG K	SKEW DPT	NOBS T+P	NOBS TV
.000	11.315	5.094	1.01	299.50	6.64	.78	280.67	6.56	-.01	343.	343.
.705	9.868	3.874	.76	297.65	4.64	.50	278.94	5.80	-.18	362.	362.
1.000	8.583	3.471	.57	299.15	3.32	-.32	276.86	5.95	-.15	303.	371.
2.000	5.956	2.859	.76	293.93	3.02	-.35	271.39	6.73	-.08	364.	383.
3.000	4.416	2.361	.52	286.61	2.50	-.39	266.91	7.70	-.24	360.	383.
4.000	2.922	1.763	.47	279.08	2.17	-.52	261.09	8.45	-.19	353.	383.
5.000	1.775	1.252	.85	271.86	2.03	-.14	254.50	8.85	.01	344.	383.
6.000	.950	.737	1.19	264.94	2.05	-.10	247.14	8.63	.11	327.	383.
7.000	.490	.382	1.67	258.01	2.08	-.45	240.32	7.83	.02	321.	382.
8.000	.246	.182	1.86	251.08	2.25	-.64	233.66	7.26	-.25	302.	378.
9.000	.129	.097	1.65	243.74	2.53	-.65	227.39	7.46	-.52	273.	378.
10.000	.071	.046	1.49	230.38	2.59	-.67	222.55	6.74	-1.01	153.	376.
11.000	.034	.014	.79	229.11	2.47	-.38	217.70	3.49	-.79	62.	376.
12.000	.016	.005	1.06	222.45	2.05	-.52	211.79	2.54	.24	53.	376.
13.000	.007	.002	.89	216.22	1.81	.03	205.76	2.51	.05	55.	373.
14.000	.003	.001	.50	210.76	2.38	.73	200.01	2.85	-.07	45.	373.
15.000	.002	.000	.84	206.81	3.17	.80	196.73	1.74	-.11	30.	371.
16.000	99.999	99.999	999.99	205.34	3.20	.73	999.99	99.99	999.99	0.	369.
17.000	98.999	99.999	999.99	206.12	2.52	.41	999.99	99.99	999.99	0.	350.
18.000	99.999	99.999	999.99	208.65	2.34	.09	999.99	99.99	999.99	0.	348.
19.000	99.999	99.999	999.99	211.66	2.23	-.20	999.99	99.99	999.93	0.	342.
20.000	99.999	93.999	999.99	214.34	2.05	-.25	999.99	99.93	999.99	0.	338.
21.000	93.999	99.999	999.99	216.79	1.72	-.08	999.99	99.99	999.99	0.	281.
22.000	99.909	99.999	999.99	218.52	1.55	-.13	999.99	99.99	999.99	0.	263.
23 000	99.999	99.999	999.99	220.09	1.63	-.25	999.99	99.99	999.99	0.	255.
24.000	99.999	99.999	999.99	221.65	1.61	-.25	999.99	99.99	999.99	0.	252.
25.000	99.999	99.999	999.99	222.86	1.78	-.16	999.99	99.99	999.99	0.	287.
26.000	99.999	99.999	999.99	224.36	1.94	-.22	999.99	99.99	999.99	0.	279.
27.000	99.999	99.999	909.99	226.21	2.02	.08	999.99	99.99	999.99	0.	240.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.	[illegible]
29.000	99.999	99.999	999.99	229.36	2.54	.03	999.99	99.99	999.99	0.	212.
30.000	99.999	[illegible]	999.99	230.69	2.49	.01	999.99	99.99	999.99	0.	196.

TABLE III-9. MOISTURE RELATED STATISTICAL PARAMETERS

SEPTEMBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	VAPOR P MEAN MB	S.D. VP MB	SKEW VP	TV MEAN DEG K	TV S.D. DEG K	SKEW TV	DEWPT T MEAN DEG K	S.D. DPT DEG K	SKEW DPT	NOBS T+P	NOBS TV
.000	9.314	4.261	.39	292.92	6.44	.55	277.57	7.39	-.58	246.	246.
.705	8.523	3.467	.18	291.99	4.59	.45	276.61	6.52	-.62	267.	269.
1.000	7.406	3.357	1.06	295.04	4.13	-.13	274.55	6.50	-.19	257.	267.
2.000	4.980	2.746	1.02	290.02	3.87	-.53	268.67	7.20	.16	258.	272.
3.000	3.479	2.103	.79	283.10	3.19	-.41	263.54	7.94	.06	245.	272.
4.000	2.093	1.404	1.17	276.62	2.97	-.27	257.08	7.69	.35	228.	272.
5.000	1.090	.806	1.81	270.10	2.87	-.37	249.51	7.00	.70	226.	272.
6.000	.571	.466	2.27	263.34	2.70	.28	242.31	6.85	.75	211.	271.
7.000	.327	.278	2.55	255.32	2.51	-.41	236.50	6.81	.56	209.	271.
8.000	.182	.151	2.36	248.87	2.58	-.58	230.04	6.69	.32	204.	270.
9.000	.100	.075	1.91	241.14	2.65	-.38	225.40	6.64	-.24	154.	270.
10.000	.051	.027	1.45	[illegible]	[illegible]	-.13	219.43	7.02	-.59	75.	270.
11.000	.025	.008	.54	227.07	2.92	.21	215.51	2.72	-.22	39.	268.
12.000	.013	.004	.58	221.19	2.73	-.33	210.49	2.64	-.29	39.	268.
13.000	.007	.003	.57	216.04	2.54	-.16	205.66	3.39	-.31	38.	267.
14.000	.004	.003	1.19	211.58	2.80	.59	201.92	4.39	-.13	30.	267.
15.000	.003	.002	.37	208.25	3.10	.53	199.23	3.99	-.19	22.	266.
16.000	99.999	99.999	999.99	206.58	3.34	.40	999.99	99.99	999.99	0.	263.
17.000	99.999	99.999	999.99	206.62	3.15	.34	999.99	99.99	999.99	0.	251.
18.000	99.999	99.999	999.99	208.40	2.87	.29	999.99	99.99	999.99	0.	250.
19.000	99.999	99.999	999.99	210.91	2.44	.33	999.99	99.99	999.99	0.	247.
20.000	99.999	99.999	999.99	213.38	2.38	.21	999.99	99.99	999.99	0.	246.
21.000	99.999	99.999	999.99	215.89	2.28	-.22	999.99	99.99	999.99	0.	206.
22.000	99.999	99.999	999.99	217.64	2.29	-.14	999.99	99.99	999.99	0.	206.
23.000	99.999	99.999	999.99	219.30	2.15	.02	999.99	99.99	999.99	0.	202.
24.000	99.999	99.999	999.99	220.98	1.96	.18	999.99	99.99	999.99	0.	202.
25.000	99.999	99.999	999.99	222.37	1.93	.52	999.99	99.99	999.99	0.	226.
26.000	99.999	99.999	999.99	223.92	1.94	.72	999.99	99.99	999.99	0.	219.
27.000	99.999	99.999	999.99	225.56	2.03	.54	999.99	99.99	999.99	0.	188.
28.000	99.999	99.999	999.99	226.72	2.02	.02	999.99	99.99	999.99	0.	186.
29.000	99.999	99.999	999.99	227.90	2.28	-.01	999.99	99.99	999.99	0.	160.
30.000	99.999	99.999	999.99	229.19	2.20	.22	999.99	99.99	999.99	0.	158.

TABLE III-10. MOISTURE RELATED STATISTICAL PARAMETERS

OCTOBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	VAPOR P MEAN MB	S.D. VP MB	SKEW VP	TV MEAN DEG K	TV S.D. DEG K	SKEW TV	DEWPT T MEAN DEG K	S.D. DPT DEG K	SKEW DPT	NOBS T+P	NOBS TV
.000	7.014	3.917	.56	287.60	7.34	.51	272.85	8.76	-.44	273.	273.
.705	6.536	3.044	.39	287.30	5.25	.47	272.55	7.28	-.57	283.	283.
1.000	6.306	2.611	.46	291.04	4.48	-.30	272.46	6.10	-.38	284.	288.
2.000	3.989	1.928	1.07	286.46	4.90	-.82	266.16	6.18	.05	283.	293.
3.000	2.564	1.433	1.22	280.01	4.72	-1.09	260.15	6.87	-.11	274.	293.
4.000	1.569	.926	1.16	273.73	4.60	-1.24	254.06	6.99	-.14	271.	293.
5.000	.889	.522	1.16	266.92	4.49	-1.24	247.59	6.78	-.31	261.	293.
6.000	.488	.283	.95	[illegible]	4.37	-1.58	241.20	6.42	-.31	[illegible]	293.
7.000	.293	.187	1.87	252.68	4.05	-1.36	235.89	6.58	-.70	248.	292.
8.000	.169	.110	1.54	245.44	3.92	-1.05	230.49	6.63	-.69	220.	292.
9.000	.094	.057	1.11	237.85	3.44	-.41	225.18	6.39	-.95	140.	292.
10.000	.048	.028	2.80	230.67	3.09	-.01	220.15	4.24	.07	56.	290.
11.000	.019	.006	.79	224.19	3.25	.39	213.31	2.50	-.05	46.	290.
12.000	.008	.003	.88	218.88	3.56	.47	207.13	2.79	-.20	46.	290.
13.000	.004	.002	.77	214.55	3.47	.48	202.41	2.86	.10	37.	290.
14.000	.003	.001	.80	211.20	3.26	.49	199.52	3.18	.01	27.	290.
15.000	.002	.001	-.46	208.43	3.22	.67	198.23	2.22	-1.17	21.	287.
16.000	99.999	99.999	999.99	206.70	3.39	.60	999.99	99.99	999.99	0.	285.
17.000	99.999	99.999	999.99	206.34	3.39	.41	999.99	99.99	999.99	0.	270.
18.000	99.999	99.999	999.99	207.39	3.03	.17	999.99	99.99	999.99	0.	267.
19.000	99.999	99.999	999.99	209.63	2.42	.22	999.99	99.99	999.99	0.	263.
20.000	99.999	99.999	999.99	211.72	2.21	.12	999.99	99.99	999.99	0.	261.
21.000	99.999	99.999	999.99	213.79	2.13	.12	999.99	99.99	999.99	0.	223.
22.000	99.999	99.999	999.99	215.75	2.13	-.23	999.99	99.99	999.99	0.	222.
23.000	99.999	99.999	999.99	217.43	1.91	-.16	999.99	99.99	999.99	0.	221.
24.000	99.999	99.999	999.99	218.87	2.03	-.08	999.99	99.99	999.99	0.	232.
25.000	99.999	99.999	999.99	220.27	2.16	-.32	999.99	99.99	999.99	0.	229.
26.000	99.999	99.999	999.99	221.74	2.22	-.28	999.99	99.99	999.99	0.	226.
27.000	99.999	99.999	999.99	223.34	2.22	.03	999.99	99.99	999.99	0.	199.
28.000	99.999	99.999	999.99	224.46	2.28	-.06	999.99	99.99	[illegible]	0.	[illegible]
29.000	99.999	99.999	999.99	225.68	2.43	.10	999.99	99.99	999.99	0.	174.
30.000	99.999	99.999	999.99	226.03	2.47	-.01	999.99	99.99	999.99	0.	173.

TABLE III-11. MOISTURE RELATED STATISTICAL PARAMETERS

NOVEMBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z	VAPOR P MEAN	S.D. VP	SKEW VP	TV MEAN	TV S.D.	SKEW TV	DEWPT T MEAN	S.D. DPT	SKEW DPT	NOBS T+P	NOBS TV
KM	MB	MB		DEG K	DEG K		DEG K	DEG K			
.000	5.723	3.479	.99	280.78	7.54	.30	270.01	8.50	-.12	326.	326.
.705	5.434	2.527	.65	280.90	5.31	.38	270.18	6.69	-.36	332.	332.
1.000	5.216	2.184	.74	284.74	4.71	-.12	269.94	5.83	-.31	340.	340.
2.000	3.391	1.647	1.12	281.13	5.29	-.39	264.05	6.14	-.04	341	347.
3.000	2.106	1.238	1.35	276.12	5.32	-.87	257.61	7.01	-.04	337.	347.
4.000	1.226	.835	2.17	270.31	5.13	-.99	250.97	7.19	.02	331.	347.
5.000	.757	.512	1.62	263.84	4.89	-.99	245.44	7.36	-.21	332.	347.
6.000	.464	.326	1.45	257.00	4.66	-.90	239.96	7.76	-.39	330.	346.
7.000	.290	.212	1.43	249.87	4.48	-.85	235.07	7.84	-.50	314.	345.
8.000	.162	.112	1.20	242.28	4.24	-.56	229.54	7.63	-.73	202.	343.
9.000	.085	.055	.82	234.78	3.78	-.30	223.84	7.42	-1.03	152.	343.
10.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11.000	.020	.009	1.08	221.17	3.45	.55	213.37	3.43	-.07	50.	335.
12.000	.010	.005	2.21	215.99	4.07	.48	208.52	3.12	.14	49.	334.
13.000	.006	.003	1.60	212.56	4.35	.06	204.65	3.65	-.03	44.	328.
14.000	.004	.004	3.53	210.47	3.93	.21	201.30	4.82	.71	32.	320.
15.000	.003	.003	2.90	208.45	3.87	.46	198.46	4.83	.66	25.	315.
16.000	99.999	99.999	999.99	207.11	3.88	.24	999.99	99.99	999.99	0.	310.
17.000	99.999	99.999	999.99	206.83	3.85	.03	999.99	99.99	999.99	0.	291.
18.000	99.999	99.999	999.99	207.29	3.63	-.12	999.99	99.99	999.99	0.	290.
19.000	99.999	99.999	999.99	208.82	2.84	.02	999.99	99.99	999.99	0.	279.
20.000	99.999	99.999	999.99	210.20	2.25	-.16	999.99	99.99	999.99	0.	275.
21.000	99.999	99.999	999.99	211.79	1.99	-.31	999.99	99.99	999.99	0.	210.
22.000	99.999	99.999	999.99	213.07	2.08	-.22	999.99	99.99	999.99	0.	206.
23.000	99.999	99.999	999.99	214.64	2.02	-.10	999.99	99.99	999.99	0.	202.
24.000	99.999	99.999	999.99	216.02	2.29	-.01	999.99	99.99	999.99	0.	221.
25.000	99.999	99.999	999.99	217.47	2.59	-.01	999.99	99.99	999.99	0.	216.
26.000	99.999	99.999	999.99	218.66	2.78	.01	999.99	99.99	999.99	0.	211.
27.000	99.999	99.999	999.99	220.12	3.08	.08	999.99	99.99	999.99	0.	167.
28.000	99.999	99.999	999.99	221.46	3.23	.19	999.99	99.99	999.99	0.	159.
29.000	99.999	99.999	999.99	222.73	3.30	.22	999.99	99.99	999.99	0.	137.
30.000	99.999	99.999	999.99	223.96	3.34	.11	999.99	99.99	999.99	0.	136.

TABLE III-12. MOISTURE RELATED STATISTICAL PARAMETERS

DECEMBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	VAPOR P MEAN MB	S.D. VP MB	SKEW VP	TV MEAN DEG K	TV S.D. DEG K	SKEW TV	DEWPT T MEAN DEG K	S.D. DPT DEG K	SKEW DPT	NOBS T+P	NOBS TV
.000	4.408	2.990	1.42	275.48	7.63	.12	266.14	9.08	-.28	282.	282.
.705	4.335	2.265	1.08	276.33	5.05	.28	266.87	7.31	-.56	291.	293.
1.000	4.245	2.112	1.21	280.44	4.47	-.42	266.85	6.60	-.26	310.	313.
2.000	2.693	1.621	1.59	277.64	5.87	-.71	260.61	7.13	.04	309.	317.
3.000	1.757	1.146	1.57	273.05	6.29	-.99	255.14	7.44	.02	306.	317.
4.000	1.060	.756	1.68	267.26	6.14	-1.10	249.08	7.47	.19	301.	317.
5.000	.634	.453	1.83	260.62	5.82	-1.14	243.45	7.32	-.02	301.	317.
6.000	.395	.308	1.82	253.73	5.45	-1.05	238.17	7.74	-.13	298.	316.
7.000	.230	.181	1.98	246.47	5.13	-.77	232.73	7.83	-.56	270.	315.
8.000	.127	.095	1.90	239.05	4.66	-.45	227.53	6.94	-.56	205.	313.
9.000	.064	.046	1.91	231.60	4.04	-.04	222.03	5.44	.21	106.	311.
10.000	.023	.014	2.32	224.95	3.70	.36	214.32	4.02	.41	70.	306.
11.000	.012	.008	2.57	219.53	4.07	.65	209.34	3.73	.66	62.	303.
12.000	.007	.006	2.67	215.94	5.15	.27	205.17	4.71	.30	61.	300.
13.000	.006	.005	2.97	214.31	5.14	-.23	203.58	4.74	.42	59.	296.
14.000	.005	.005	2.72	212.56	4.26	.08	202.17	4.79	.81	46.	287.
15.000	.004	.004	1.95	210.61	4.16	.36	199.94	5.48	.88	32.	280.
16.000	99.999	99.999	999.99	208.76	4.40	.23	999.99	99.99	999.99	0.	279.
17.000	99.999	99.999	999.99	207.83	4.40	.05	999.99	99.99	999.99	0.	260.
18.000	99.999	99.999	999.99	208.17	4.08	-.07	999.99	99.99	999.99	0.	257.
19.000	99.999	99.999	999.99	209.18	3.54	-.14	999.99	99.99	999.99	0.	245.
20.000	99.999	99.999	999.99	210.45	2.81	-.02	999.99	99.99	999.99	0.	236.
21.000	99.999	99.999	999.99	211.75	2.54	.13	999.99	99.99	999.99	0.	191.
22.000	99.999	99.999	999.99	213.10	2.63	.37	999.99	99.99	999.99	0.	187.
23.000	99.999	99.999	999.99	214.41	2.79	.23	999.99	99.99	999.99	0.	185.
24.000	99.999	99.999	999.99	215.66	3.01	.19	999.99	99.99	999.99	0.	209.
25.000	99.999	99.999	999.99	216.84	3.32	.33	999.99	99.99	999.99	0.	199.
26.000	99.999	99.999	999.99	217.74	3.50	.28	999.99	99.99	999.99	0.	197.
27.000	99.999	99.999	999.99	219.09	3.76	.45	999.99	99.99	999.99	0.	154.
28.000	99.999	99.999	999.99	220.60	4.18	.40	999.99	99.99	999.99	0.	145.
29.000	99.999	99.999	999.99	222.17	4.01	.69	999.99	99.99	999.99	0.	107.
30.000	99.999	99.999	999.99	223.25	4.08	.54	999.99	99.99	999.99	0.	106.

TABLE III-13. MOISTURE RELATED STATISTICAL PARAMETERS

ANNUAL

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	VAPOR P MEAN MB	S.D. VP MB	SKEW VP	TV MEAN DEG K	TV S.D. DEG K	SKEW TV	DEWPT T MEAN DEG K	S.D. DPT DEG K	SKEW DPT	NOBS T+P	NOBS TV
.000	7.402	4.217	.97	287.23	10.75	.07	273.55	8.98	-.64	3674.	3674.
.705	6.659	3.338	.91	286.27	8.99	.16	272.66	7.60	-.60	3900.	3908.
1.000	5.987	2.864	1.02	288.50	8.21	.09	271.47	6.78	-.33	3973.	4052.
2.000	3.784	2.182	1.38	283.98	8.08	-.14	264.95	7.37	-.06	3941.	4158.
3.000	2.508	1.757	1.53	277.96	7.31	-.37	259.07	8.32	.03	3825.	4157.
4.000	1.561	1.232	1.77	271.51	6.74	-.51	253.00	8.52	.15	3719.	4156.
5.000	.924	.792	2.20	264.69	6.50	-.52	246.87	8.42	.15	3682.	4153.
6.000	.522	.459	2.40	257.69	6.38	-.49	240.67	8.27	-.01	3583.	4141.
7.000	.295	.256	2.52	250.44	6.44	-.35	234.97	8.03	-.29	3356.	4130.
8.000	.163	.135	2.34	242.97	6.48	-.19	229.48	7.48	-.34	2850.	4109.
9.000	.090	.073	2.08	235.43	6.33	.03	224.17	7.03	-.22	1776.	4105.
10.000	.041	.036	2.31	228.38	5.98	.16	217.45	6.66	.12	1028.	4076.
11.000	.017	.012	2.12	222.30	5.44	.11	211.49	4.97	.09	696.	[illegible]
12.000	.009	.006	1.47	217.67	5.20	-.26	206.83	4.99	-.46	684.	4033.
13.000	.006	.004	1.70	214.86	4.39	-.37	204.42	4.27	-.29	643.	4003.
14.000	.005	.003	2.12	212.56	3.91	.19	202.46	4.24	-.11	535.	3966.
15.000	.003	.002	1.79	210.19	4.21	.20	200.23	4.35	-.05	420.	3923.
16.000	99.999	99.999	999.99	208.65	4.28	.14	999.99	99.99	999.99	0.	3901.
17.000	99.999	99.999	999.99	208.38	4.01	.07	999.99	99.99	999.99	0.	3713.
18.000	99.999	99.999	999.99	209.16	3.55	-.13	999.99	99.99	999.99	0.	3685.
19.000	99.999	99.999	999.99	210.78	3.10	-.38	999.99	99.99	999.99	0.	3599.
20.000	99.999	99.999	999.99	212.47	3.00	-.47	999.99	99.99	999.99	0.	3536.
21.000	99.999	99.999	999.99	214.47	3.02	-.46	999.99	99.99	999.99	0.	2869.
22.000	99.999	99.999	999.99	216.04	3.13	-.51	999.99	99.99	999.99	0.	2790.
23.000	99.999	99.999	999.99	217.56	3.20	-.52	999.99	99.99	999.99	0.	2753.
24.000	99.999	99.999	999.99	218.75	3.55	-.52	999.99	99.99	999.99	0.	2980.
25.000	99.999	99.999	999.99	220.28	3.68	-.53	999.99	99.99	999.99	0.	3068.
26.000	99.999	99.999	999.99	221.74	3.90	-.48	999.99	99.99	999.99	0.	3017.
27.000	99.999	99.999	999.99	223.62	4.01	-.42	999.99	99.99	999.99	0.	2492.
28.000	99.999	99.999	999.99	225.22	4.18	-.46	999.99	99.99	999.99	0.	2394.
29.000	99.999	99.999	999.99	226.91	4.29	-.32	999.99	99.99	999.99	0.	1934.
30.000	99.999	99.999	999.99	228.37	4.42	-.39	999.99	99.99	999.99	0.	1961.

TABLE IV-1. HYDROSTATIC MODEL ATMOSPHERE

JANUARY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1021.8000	1292.0000	275.63
.705	.704	936.4200	1182.0000	276.06
1.000	.999	903.1200	1124.0000	279.90
2.000	1.997	798.9600	1005.0000	276.85
3.000	2.996	705.6400	902.7000	272.33
4.000	3.994	621.7600	812.8000	266.48
5.000	4.991	546.2400	732.2000	259.88
6.000	5.989	478.2700	658.7000	252.93
7.000	6.986	417.1700	592.2000	245.42
8.000	7.982	362.3200	531.0000	237.68
9.000	8.979	313.2300	474.5000	229.99
10.000	9.975	269.5300	421.1000	222.96
11.000	10.970	230.9600	369.4000	217.65
12.000	11.966	197.3800	320.2000	214.75
13.000	12.961	168.4400	274.0000	214.13
14.000	13.956	143.6700	234.7000	213.24
15.000	14.950	122.4200	201.9000	211.23
16.000	15.944	104.1600	173.4000	209.31
17.000	16.938	88.5350	147.9000	208.50
18.000	17.932	75.2340	125.7000	208.50
19.000	18.925	63.9500	106.4000	209.46
20.000	19.918	54.4230	89.9600	210.74
21.000	20.911	46.3640	76.0100	212.48
22.000	21.903	39.5470	64.4300	213.81
23.000	22.895	33.7660	54.6800	215.13
24.000	23.887	28.8540	46.5600	215.88
25.000	24.878	24.6730	39.6400	216.84
26.000	25.869	21.1150	33.7500	217.96
27.000	26.860	18.0880	28.6900	219.61
28.000	27.850	15.5130	24.4600	220.93
29.000	28.840	13.3150	20.9000	221.99
30.000	29.830	11.4390	17.8400	223.43
32.000	31.806	8.4353	13.0000	230.35
34.000	33.734	[illegible]	[illegible]	[illegible]
36.000	35.760	4.7870	7.0120	240.68
38.000	37.735	3.6282	5.1970	246.15
40.000	39.708	2.7668	3.8830	251.19
42.000	41.681	2.1225	2.9080	257.35
44.000	43.652	1.6385	2.1970	262.97
46.000	45.622	1.2706	1.6820	268.34
48.000	47.590	.9869	1.3090	265.70
50.000	49.558	.7651	1.0270	262.73
52.000	51.524	.5916	.8042	259.32
54.000	53.489	.4561	.6256	257.02
56.000	55.453	.3510	.4847	255.30
58.000	57.415	.2697	.3748	253.67
60.000	59.377	.2068	.2904	251.11
62.000	61.337	.1579	.2269	245.33
64.000	63.295	.1199	.1757	240.59
66.000	65.253	.0905	.1358	234.89
68.000	67.209	.0678	.1048	227.98
70.000	69.165	.0504	.0797	222.88

TABLE IV-2. HYDROSTATIC MODEL ATMOSPHERE

FEBRUARY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1019.9000	1273.0000	279.26
.705	.704	935.6100	1169.0000	278.80
1.000	.999	902.6200	1115.0000	282.08
2.000	1.997	799.0400	1003.0000	277.65
3.000	2.996	705.8600	902.4000	272.49
4.000	3.994	621.9900	813.0000	266.52
5.000	4.991	546.4200	733.0000	259.68
6.000	5.989	478.3500	660.0000	252.50
7.000	6.986	417.1300	593.2000	244.97
8.000	7.982	362.1900	531.9000	237.21
9.000	8.979	313.0500	474.9000	229.66
10.000	9.975	269.3300	421.2000	222.76
11.000	10.970	230.7900	369.1000	217.81
12.000	11.966	197.2300	319.4000	215.11
13.000	12.961	168.3900	272.8000	215.02
14.000	13.956	143.7200	234.1000	213.89
15.000	14.950	122.5000	201.7000	211.60
16.000	15.944	104.2500	173.3000	209.54
17.000	16.938	88.6220	148.1000	208.46
18.000	17.932	75.3000	125.9000	208.29
19.000	18.925	64.0040	106.6000	209.25
20.000	19.918	54.4480	90.1800	210 32
21.000	20.911	48.3660	76.2700	211.77
22.000	21.903	39.5290	64.5800	213.22
23.000	22.895	33.7370	54.7700	214.60
24.000	23.887	28.8210	46.5600	215.65
25.000	24.878	24.6450	39.5400	217.11
26.000	25.869	21.0990	33.6200	218.62
27.000	26.860	18.0840	28.5700	220.47
28.000	27.[illegible]	15.[illegible]	[illegible].3300	[illegible].23
29.000	28.840	13.3370	20.7500	223.94
30.000	29.830	11.4745	17.7100	225.75
32.000	31.806	8.5458	13.0000	232.40
34.000	33.784	6.4118	9.5290	237.98
36.000	35.760	4.8470	7.0090	244.57
38.000	37.735	3.6908	5.2090	250.62
40.000	39.708	2.8279	3.9140	255.53
42.000	41.681	2.1773	2.9610	260.08
44.000	43.652	1.6832	2.2630	263.08
46.000	45.622	1.3038	1.7470	264.01
48.000	47.590	1.0106	1.3550	263.81
50.000	49.558	.7829	1.0540	262.79
52.000	51.524	.6059	.8200	261.31
54.000	53.489	.4683	.6367	260.15
56.000	55.453	.3614	.4966	257.33
58.000	57.415	.2702	.3854	255.31
60.000	59.377	.2138	.2977	254.07
62.000	61.337	.1639	.2322	249.64
64.000	63.295	.1248	.1828	241.53
66.000	65.253	.0943	.1413	236.16
68.000	67.209	.0707	.1103	226.56
70.000	69.165	.0524	.0841	220.49

TABLE IV-3. HYDROSTATIC MODEL ATMOSPHERE

MARCH

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1015.5000	1247.0000	283.83
.705	.704	932.6500	1153.0000	281.83
1.000	.999	899.9900	1108.0000	282.96
2.000	1.997	796.9100	999.0000	277.89
3.000	2.996	703.9700	901.0000	272.17
4.000	3.994	620.2100	811.9000	266.11
5.000	4.991	544.7600	731.7000	259.35
6.000	5.989	476.8300	658.3000	252.33
7.000	6.986	415.7800	591.6000	244.85
8.000	7.982	361.0000	530.3000	237.15
9.000	8.979	311.9900	473.6000	229.51
10.000	9.975	268.4100	419.6000	222.83
11.000	10.970	230.0200	367.7000	217.89
12.000	11.966	196.5700	318.5000	215.00
13.000	12.961	167.8000	272.3000	214.65
14.000	13.956	143.2000	233.1000	214.02
15.000	14.950	122.1000	200.3000	212.38
16.000	15.944	103.9900	171.9000	210.77
17.000	16.938	88.5050	146.6000	210.35
18.000	17.932	75.3170	124.7000	219.38
19.000	18.925	64.1140	105.8000	211.03
20.000	19.918	54.6140	89.7500	211.99
21.000	20.911	46.5690	75.9400	213.62
22.000	21.903	39.7520	64.4800	214.78
23.000	22.895	33.9660	54.7500	216.11
24.000	23.887	29.0480	46.6200	217.06
25.000	24.878	24.8630	39.6600	218.41
26.000	25.869	21.3030	33.7600	219.80
27.000	26.860	18.2750	28.7100	221.73
28.000	27.850	15.6980	24.4700	223:49
29.000	28.840	13.5010	20.8800	225.27
30.000	29.830	11.6265	17.8200	227.24
32.000	31.806	8.6771	13.1300	234.18
34.000	33.7[illegible]	[illegible]	[illegible]	239.[illegible]
36.000	35.760	4.9306	7.1500	244.35
38.000	37.735	3.7490	5.3530	248.17
40.000	39.708	2.8658	4.0030	253.65
42.000	41.681	2.2021	3.0230	258.10
44.000	43.652	1.6998	2.2990	262.04
46.000	45.622	1.3164	1.7630	264.53
48.000	47.590	1.0215	1.3630	265.58
50.000	49.558	.7932	1.0570	265.91
52.000	51.524	.6159	.8235	264.97
54.000	53.489	.4776	.6435	262.96
56.000	55.453	.3698	.5005	261.81
58.000	57.415	.2860	.3900	259.80
60.000	59.377	.2206	.3050	256.21
62.000	61.337	.1694	.2388	251.36
64.000	63.295	.1295	.1860	246.63
66.000	65.253	.0984	.1446	241.20
68.000	67.209	.0742	.1131	232.49
70.000	69.165	.0555	.0870	225.78

TABLE IV-4. HYDROSTATIC MODEL ATMOSPHERE

APRIL

STATION = 723810   EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1013.4000	1234.0000	286.27
.705	.704	931.4200	1142.0000	284.03
1.000	.999	899.0300	1100.0000	284.66
2.000	1.997	796.5900	993.5000	279.32
3.000	2.996	704.0500	898.3000	273.04
4.000	3.994	620.5300	809.8000	266.54
5.000	4.991	545.2800	729.8000	260.29
6.000	5.989	477.5200	656.8000	253.27
7.000	6.986	416.6000	590.3000	245.87
8.000	7.982	361.9500	529.0000	238.36
9.000	8.979	313.0700	472.3000	230.91
10.000	9.975	269.5800	419.0000	224.14
11.000	10.970	231.1900	368.2000	218.77
12.000	11.966	197.6600	320.0000	215.21
13.000	12.961	168.7400	273.7000	214.76
14.000	13.956	144.0400	233.7000	214.67
15.000	14.950	122.8900	200.7000	213.29
16.000	15.944	104.7500	172.1000	212.01
17.000	16.938	89.2310	147.0000	211.42
18.000	17.932	75.9910	125.3000	211.25
19.000	18.925	64.7360	106.3000	212.09
20.000	19.918	55.1890	90.2100	213.12
21.000	20.911	47.1000	76.3900	214.78
22.000	21.903	40.2450	64.8100	216.33
23.000	22.895	34.4270	55.0800	217.76
24.000	23.887	29.4790	46.9100	218.93
25.000	24.878	25.2670	39.9400	220.41
26.000	25.869	21.6820	34.0200	222.04
27.000	26.860	18.6290	28.9600	224.13
28.000	27.[illegible]	[illegible]	[illegible]	[illegible]
29.000	28.840	13.8090	21.1200	227.82
30.000	29.830	11.9113	18.0600	229.72
32.000	31.806	8.9163	13.3100	236.47
34.000	33.784	6.7222	9.8080	241.96
36.000	35.760	5.0990	7.3000	246.57
38.000	37.735	3.8876	5.4700	250.87
40.000	39.708	2.9799	4.1070	256.14
42.000	41.681	2.2972	3.0960	261.93
44.000	43.652	1.7806	2.3570	266.73
46.000	45.622	1.3846	1.8220	268.26
48.000	47.590	1.0784	1.4110	269.81
50.000	49.558	.8403	1.1020	269.10
52.000	51.524	.6544	.8615	268.13
54.000	53.489	.5089	.6761	265.68
56.000	55.453	.3949	.5286	263.74
58.000	57.415	.3059	.4141	260.72
60.000	59.377	.2361	.3240	257.23
62.000	61.337	.1814	.2551	251.06
64.000	63.295	.1394	.2009	243.2[illegible]
66.000	65.253	.1047	.1568	235.67
68.000	67.209	.0785	.1215	227.80
70.000	69.165	.0581	.0941	218.16

TABLE IV-5. HYDROSTATIC MODEL ATMOSPHERE

MAY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1011.0000	1210.0000	291.25
.705	.704	930.5000	1122.0000	288.87
1.000	.999	898.6800	1081.0000	289.58
2.000	1.997	797.9800	977.0000	284.53
3.000	2.996	706.8500	885.9000	277.97
4.000	3.994	624.3200	802.0000	271.18
5.000	4.991	549.6800	724.8000	264.19
6.000	5.989	482.3300	653.4000	257.15
7.000	6.986	421.6900	588.1000	249.81
8.000	7.982	367.1800	528.1000	242.19
9.000	8.979	318.3100	472.8000	234.53
10.000	9.975	274.6800	421.3000	227.14
11.000	10.970	235.9900	372.1000	220.92
12.000	11.966	201.9700	325.7000	216.04
13.000	12.961	172.4400	280.5000	214.14
14.000	13.956	147.1400	239.3000	214.21
15.000	14.950	125.5200	205.0000	213.35
16.000	15.944	107.0100	175.5000	212.36
17.000	16.938	91.1740	150.0000	211.72
18.000	17.932	77.6690	127.8000	211.74
19.000	18.925	66.1880	108.5000	212.53
20.000	19.918	56.4540	91.9300	213.93
21.000	20.911	48.2130	77.8000	215.90
22.000	21.903	41.2310	66.0500	217.47
23.000	22.895	35.3020	56.1200	219.15
24.000	23.887	30.2600	47.8100	220.50
25.000	24.878	25.9660	40.7300	222.09
26.000	25.869	22.3080	34.7200	223.84
27.000	26.860	19.1900	29.6000	225.88
28.000	27.850	16.5300	25.2900	227.69
29.000	28.840	14.2560	21.6600	229.30
30.000	29.830	12.3081	18.5500	231.10
32.000	31.806	9.2258	13.6900	237.27
34.000	33.784	[illegible]	10.1100	242.56
36.000	35.760	5.2818	7.5340	246.86
38.000	37.735	4.0308	5.6250	252.33
40.000	39.708	3.0951	4.2230	258.03
42.000	41.681	2.3906	3.1890	263.92
44.000	43.652	1.8562	2.4360	268.29
46.000	45.622	1.4461	1.8800	270.88
48.000	47.590	1.1288	1.4610	271.94
50.000	49.558	.8815	1.1420	271.72
52.000	51.524	.6877	.8985	269.48
54.000	53.489	.5354	.7065	266.81
56.000	55.453	.4158	.5550	263.78
58.000	57.415	.3220	.4353	260.39
60.000	59.377	.2484	.3413	256.26
62.000	61.337	.1906	.2685	249.96
64.000	63.295	.1452	.2115	241.78
66.000	65.253	.1098	.1653	233.48
68.000	67.209	.0818	.1293	222.69
70.000	69.165	.0602	.0994	213.01

TABLE IV-6. HYDROSTATIC MODEL ATMOSPHERE

JUNE

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1008.3000	1189.0000	295.62
.705	.704	929.2800	1102.0000	293.73
1.000	.999	898.0400	1061.0000	294.90
2.000	1.997	799.1500	960.2000	289.93
3.000	2.996	709.4900	872.7000	283.21
4.000	3.994	628.0500	792.6000	276.05
5.000	4.991	554.23[illegible]	717.6000	269.07
6.000	5.989	467.48[illegible]	648.5000	261.88
7.000	6.986	427.2300	584.7000	254.56
8.000	7.982	372.9900	526.1000	247.00
9.000	8.979	324.2700	472.0000	239.35
10.000	9.975	280.6700	421.5000	231.98
11.000	10.970	241.8700	374.1000	225.24
12.000	11.966	207.5800	329.2000	219.66
13.000	12.961	177.5600	286.9000	215.62
14.000	13.956	151.5200	247.8000	213.01
15.000	14.950	129.0700	213.4000	210.73
16.000	15.944	109.7900	182.8000	209.19
17.000	16.938	93.3390	155.5000	209.05
18.000	17.932	79.3820	131.6000	210.12
19.000	18.925	67.5980	111.0000	212.18
20.000	19.918	57.6580	93.7000	214.36
21.000	20.911	49.2640	79.1900	216.71
22.000	21.903	42.1570	67.2200	218.48
23.000	22.895	36.1210	57.1600	220.16
24.000	23.887	30.9880	48.6400	221.93
25.000	24.878	26.6160	41.4900	223.49
26.000	25.869	22.8880	35.3900	225.28
27.000	26.860	19.7090	30.2100	227.28
28.000	[illegible]	[illegible]	[illegible]	[illegible]
29.000	28.840	14.6690	22.1300	230.95
30.000	29.830	12.6769	19.0000	232.48
32.000	31.806	9.5142	14.0300	237.94
34.000	33.784	7.1823	10.3900	242.71
36.000	35.760	5.4529	7.7360	247.39
38.000	37.735	4.1623	5.7910	252.25
40.000	39.708	3.1967	4.3410	258.44
42.000	41.681	2.4698	3.2820	264.09
44.000	43.652	1.9177	2.5100	268.17
46.000	45.622	1.4937	1.9370	270.58
48.000	47.590	1.1658	1.5050	271.84
50.000	49.558	.9105	1.1740	272.24
52.000	51.524	.7108	.9227	270.36
54.000	53.489	.5539	.7259	267.78
56.000	55.453	.4304	.5717	264.20
58.000	57.415	.3333	.4493	260.35
60.000	59.377	.2571	.3524	256.07
62.000	61.337	.1972	.2785	248.53
64.000	63.295	.1500	.2185	240.97
66.000	65.253	.1132	.1697	234.08
68.000	67.209	.0845	.1329	223.0[illegible]
70.000	69.165	.0623	.1015	215.46

TABLE IV-7. HYDROSTATIC MODEL ATMOSPHERE

JULY

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1008.8000	1178.0000	298.96
.705	.704	930.6400	1090.0000	297.36
1.000	.999	899.7400	1048.0000	298.96
2.000	1.997	801.9700	949.7000	294.17
3.000	2.996	713.1800	863.4000	287.10
4.000	3.994	632.3300	787.9000	279.58
5.000	4.991	558.8500	715.2000	272.22
6.000	5.989	492.2800	647.1000	265.04
7.000	6.986	432.1800	593.3000	258.13
8.000	7.982	378.0800	524.5000	251.13
9.000	8.979	329.5000	470.6000	243.91
10.000	[illegible]	295.9900	421.1000	[illegible]
11.000	10.970	247.1400	375.4000	229.33
12.000	11.966	212.6000	332.8000	222.56
13.000	12.961	182.0900	293.3000	216.25
14.000	13.958	155.2800	256.9000	210.55
15.000	14.950	131.9300	222.6000	206.42
16.000	15.944	111.8600	189.9000	205.16
17.000	16.938	94.8320	160.3000	206.11
18.000	17.932	80.5140	134.4000	208.66
19.000	18.925	68.5090	112.8000	211.61
20.000	19.918	58.4180	95.0100	214.20
21.000	20.911	49.9150	80.1600	216.91
22.000	21.903	42.7230	68.0000	218.87
23.000	22.895	36.6160	57.8300	220.56
24.000	23.887	31.4190	49.2700	222.13
25.000	24.878	26.3890	42.0800	223.43
26.000	25.869	23.2060	35.9200	225.04
27.000	26.860	19.9780	30.6800	226.86
28.000	27.850	17.2190	26.2400	228.62
29.000	28.840	14.8590	22.4700	230.35
30.000	29.830	12.8358	19.2900	231.79
32.000	[illegible]	9.6221	14.2900	236.70
34.000	33.784	7.2509	10.5800	240.94
36.000	35.760	5.4926	7.8730	245.20
38.000	37.735	4.1824	5.8810	249.96
40.000	39.708	3.2036	4.4040	255.68
42.000	41.681	2.4678	3.3250	260.89
44.000	43.652	1.9098	2.5380	264.50
46.000	45.622	1.4824	1.9530	266.80
48.000	47.590	1.1529	1.5110	268.05
50.000	49.558	.8970	1.1780	267.67
52.000	51.524	.6973	.9218	265.87
54.000	53.489	.5409	.7236	262.69
56.000	55.453	.4183	.5673	259.11
58.000	57.415	.3221	.4457	253.93
60.000	59.377	.2468	.3479	249.24
62.000	61.337	.1878	.2735	241.31
64.000	63.295	.1418	.2125	234.39
66.000	65.253	.1061	.1640	227.33
68.000	67.209	.0786	.1264	218.65
70.000	69.165	.0577	.0952	212.89

TABLE IV-8. HYDROSTATIC MODEL ATMOSPHERE

AUGUST

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1009.0000	1174.0000	299.50
.705	.704	930.8400	1089.0000	297.65
1.000	.999	899.9700	1048.0000	299.15
2.000	1.997	802.1700	950.7000	293.93
3.000	2.996	713.2500	866.9000	286.61
4.000	3.994	632.2500	789.2000	279.08
5.000	4.991	558.6800	715.9000	271.86
6.000	5.989	492.0700	647.0000	264.94
7.000	6.986	431.9700	583.2000	258.01
8.000	7.982	377.8900	524.3000	251.08
9.000	8.979	329.3100	470.7000	243.74
10.000	9.975	285.7900	421.2000	236.38
11.000	10.970	246.9300	375.5000	229.11
12.000	11.966	212.4000	332.6000	222.45
13.000	12.961	181.9000	293.1000	216.22
14.000	13.956	155.1300	256.4000	210.76
15.000	14.950	131.8400	222.1000	206.81
16.000	15.944	111.8000	189.7000	205.34
17.000	16.938	94.7950	160.2000	206.12
18.000	17.932	80.4830	134.4000	208.65
19.000	18.925	68.4820	112.7000	211.66
20.000	19.918	58.4000	94.9200	214.34
21.000	20.911	49.8990	80.1900	216.79
22.000	21.903	42.7020	68.0800	218.52
23.000	22.895	36.5880	57.9100	220.09
24.000	23.887	31.3850	49.3300	221.65
25.000	24.878	26.9490	42.1300	222.86
26.000	25.869	23.1630	35.9600	224.36
27.000	26.860	19.9310	30.7000	226.21
28.000	27.850	17.1710	26.2600	227.77
29.000	28.840	14.8090	22.4900	229.36
30.000	29.830	12.7[illegible]	19.3100	230.69
32.000	31.806	9.5715	14.2500	235.80
34.000	33.784	7.2011	10.5700	239.12
36.000	35.760	5.4416	7.8700	242.78
38.000	37.735	4.1324	5.8620	247.52
40.000	39.708	3.1570	4.3780	253.19
42.000	41.661	2.4252	3.3010	257.99
44.000	43.652	1.8725	2.5030	262.71
46.000	45.622	1.4509	1.9230	264.84
48.000	47.590	1.1256	1.4920	264.91
50.000	49.558	.8734	1.1570	265.12
52.000	51.524	.6776	.9009	264.06
54.000	53.489	.5249	.7049	261.38
56.000	55.453	.4053	.5518	257.89
58.000	57.415	.3120	.4306	254.38
60.000	59.377	.2391	.3366	249.36
62.000	61.337	.1821	.2633	242.91
64.000	63.295	.1377	.2056	235.12
66.000	65.252	.1032	.1579	229.52
68.000	67.209	.0767	.1224	220.00
70.000	69.165	.0563	.0926	213.56

TABLE IV-9. HYDROSTATIC MODEL ATMOSPHERE

SEPTEMBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1010.7000	1203.0000	292.92
.705	.704	930.8900	1111.0000	291.99
1.000	.999	899.5100	1062.0000	295.04
2.000	1.997	800.5000	961.5000	290.02
3.000	2.996	710.6800	874.5000	283.10
4.000	3.994	629.1700	792.4000	276.62
5.000	4.991	555.4200	716.4000	270.10
6.000	5.989	488.8100	646.6000	263.34
7.000	6.986	428.7600	582.7000	256.32
8.000	7.982	374.6900	524.5000	248.87
9.000	8.979	326.0000	471.1000	241.14
10.000	9.975	282.5[illegible]00	421.0000	233.[illegible]
11.000	10.970	243.7700	374.0000	227.07
12.000	11.966	209.4600	329.9000	221.19
13.000	12.961	179.2900	289.1000	216.04
14.000	13.956	152.9400	251.8000	211.58
15.000	14.950	130.0900	217.6000	208.25
16.000	15.944	110.4400	186.2000	206.58
17.000	16.938	93.7000	158.0000	206.62
18.000	17.932	79.5610	133.0000	208.40
19.000	18.925	67.6720	111.8000	210.91
20.000	19.918	57.6720	94.1600	213.38
21.000	20.911	49.2440	79.4600	215.89
22.000	21.903	42.1150	67.4100	217.64
23.000	22.895	36.0630	57.2900	219.30
24.000	23.887	30.9190	48.7400	220.98
25.000	24.878	26.5380	41.5700	222.37
26.000	25.869	22.8020	35.4700	223.92
27.000	26.860	19.6140	30.2900	225.56
28.000	27.850	16.8880	25.9500	226.72
29.000	28.840	14.5530	22.2500	227.90
30.000	29.830	12.5512	19.0800	229.19
32.000	31.803	9.3799	14.0800	234.37
34.000	33.784	7.0419	10.4500	237.02
36.000	35.760	5.3102	7.7410	241.31
38.000	37.735	4.0253	5.7610	245.79
40.000	39.708	3.0687	4.3010	250.97
42.000	41.681	2.3532	3.2230	256.85
44.000	43.652	1.8153	2.4370	262.05
46.000	45.622	1.4058	1.8700	264.49
48.000	47.590	1.0912	1.4410	266.30
50.000	49.558	.8478	1.1190	266.41
52.000	51.524	.6585	.8731	265.30
54.000	53.489	.5108	.6825	263.28
56.000	55.453	.3956	.5320	261.58
58.000	57.415	.3057	.4160	258.48
60.000	59.377	.2353	.3267	253.29
62.000	61.337	.1801	.2554	248.02
64.000	63.295	.1369	.2006	240.13
66.000	65.253	.1033	.1553	233.91
68.000	67.209	.0771	.1209	224.50
70.000	69.165	.0571	.0919	218.33

TABLE IV-10. HYDROSTATIC MODEL ATMOSPHERE

OCTOBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1014.7000	1230.0000	287.60
.705	.704	933.1900	1132.0000	287.30
1.000	.999	901.2600	1079.0000	291.04
2.000	1.997	800.8300	973.9000	286.46
3.000	2.996	709.9900	883.3000	280.01
4.000	3.994	627.7300	798.9000	273.73
5.000	4.991	553.3700	722.2000	266.92
6.000	5.989	486.2400	651.6000	259.54
7.000	6.986	425.7500	586.5000	252.88
8.000	7.982	371.3700	527.1000	245.44
9.000	8.979	322.5700	472.5000	237.85
10.000	9.975	278.9600	421.3000	230.67
11.000	10.970	240.2100	373.3000	224.19
12.000	11.966	206.0200	327.9000	218.88
13.000	12.961	176.1100	285.9000	214.55
14.000	13.956	150.1300	247.6000	211.20
15.000	14.950	127.6800	213.4000	208.43
16.000	15.944	108.4100	182.7000	206.70
17.000	16.938	91.9730	155.3000	206.34
18.000	17.932	78.0550	131.1000	207.39
19.000	18.925	66.3320	110.2000	209.63
20.000	19.918	56.4670	92.9100	211.72
21.000	20.911	48.1480	78.4500	213.79
22.000	21.903	41.1170	66.3900	215.75
23.000	22.895	35.1620	56.3400	217.43
24.000	23.887	30.1040	47.9200	218.07
25.000	24.878	25.8010	40.8100	220.27
26.000	25.869	22.1360	34.7800	221.74
27.000	26.860	19.0[illegible]30	29.6500	223.[illegible]
28.000	27.850	16.3460	25.3700	224.46
29.000	28.840	14.0650	21.7100	225.68
30.000	29.830	12.1122	18.6000	226.63
32.000	31.806	9.0211	13.7500	231.36
34.000	33.784	6.7509	10.1400	234.80
36.000	35.760	5.0772	7.4880	239.05
38.000	37.735	3.8396	5.5500	243.93
40.000	39.708	2.9224	4.1220	249.95
42.000	41.681	2.2385	3.0870	255.69
44.000	43.652	1.7248	2.3310	260.87
46.000	45.622	1.3354	1.7760	265.09
48.000	47.590	1.0371	1.3700	266.85
50.000	49.558	.8061	1.0650	266.85
52.000	51.524	.6265	.8301	266.09
54.000	53.489	.4864	.6493	264.08
56.000	55.453	.3769	.5067	262.22
58.000	57.415	.2915	.3957	259.71
60.000	59.377	.2247	.3102	255.41
62.000	61.337	.1725	.2428	250.43
64.000	63.295	.1315	.1906	243.30
66.000	65.253	.0995	.1490	235.37
68.000	67.209	.0744	.1164	225.47
70.000	69.165	.0551	.0683	220.13

TABLE IV-11. HYDROSTATIC MODEL ATMOSPHERE

NOVEMBER

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1018.1000	1264.0000	280.76
.705	.704	934.4900	1159.0000	280.90
1.000	.999	901.8200	1103.0000	284.74
2.000	1.997	799.3900	990.6000	281.13
3.000	2.996	707.2900	892.4000	276.12
4.000	3.994	624.3200	804.6000	270.31
5.000	4.991	549.5200	725.6000	263.84
6.000	5.989	482.1300	653.5000	257.00
7.000	6.986	421.5000	587.7000	249.87
8.000	7.982	367.0300	527.7000	242.28
9.000	8.979	318.2200	472.2000	234.78
10.000	9.975	274.5700	420.4000	[illegible]
11.000	10.970	236.0300	371.8000	221.17
12.000	11.966	202.0200	325.8000	215.99
13.000	12.961	172.3800	282.5000	212.56
14.000	13.956	146.8000	243.0000	210.47
15.000	14.950	124.8200	208.6000	208.45
16.000	15.944	105.9900	178.3000	207.11
17.000	16.938	89.9560	151.5000	206.83
18.000	17.932	76.3550	128.3000	207.29
19.000	18.925	64.8640	108.2000	208.82
20.000	19.918	55.1680	91.4300	210.20
21.000	20.911	46.9770	77.2700	211.79
22.000	21.903	40.0480	65.4800	213.07
23.000	22.895	34.1790	55.4700	214.64
24.000	23.887	29.2030	47.1000	216.02
25.000	24.878	24.9785	40.0100	217.47
26.000	25.869	21.3860	34.0700	218.66
27.000	26.860	18.3290	29.0100	220.12
28.000	27.850	15.7240	24.7400	221.46
29.000	28.840	13.5030	21.1200	222.73
30.000	29.830	11.6056	18.0500	223.98
32.000	31.805	8.613[illegible]	13.3500	228.78
34.000	33.784	6.4275	9.7840	232.95
36.000	35.760	4.8240	7.2030	237.49
38.000	37.735	3.6398	5.3430	241.56
40.000	39.708	2.7626	3.9610	247.29
42.000	41.681	2.1095	2.9630	252.48
44.000	43.652	1.6201	2.2290	257.69
46.000	45.622	1.2501	1.6950	261.52
48.000	47.590	.9681	1.2980	264.45
50.000	49.558	.7510	1.0050	264.92
52.000	51.524	.5828	.7803	264.80
54.000	53.489	.4519	.6087	263.26
56.000	55.453	.3500	.4740	261.83
58.000	57.415	.2707	.3689	260.23
60.000	59.377	.2089	.2882	257.09
62.000	81.337	.1607	.2256	252.49
64.000	63.295	.1226	.1789	243.05
66.000	65.253	.0928	.1394	235.97
68.000	67.209	.0695	.1090	225.93
70.000	69.165	.0514	.0833	218.76

TABLE IV-12. HYDROSTATIC MODEL ATMOSPHERE

DECEMBER

STATION = 723810   EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1020.7000	1292.0000	275.48
.705	.704	935.4700	1179.0000	276.33
1.000	.999	902.2500	1121.0000	280.44
2.000	1.997	798.4200	1002.0000	277.64
3.000	2.996	705.4100	900.0000	273.05
4.000	3.994	621.7700	810.5000	267.26
5.000	4.991	546.4500	730.4000	260.62
6.000	5.989	478.6500	657.2600	253.73
7.000	6.988	417.7000	590.4000	246.47
8.000	7.982	363.0400	529.1000	239.05
9.000	8.979	314.1500	472.5000	231.60
10.000	9.975	270.6400	419.1000	224.95
11.000	10.970	232.2300	368.5000	213.53
12.000	11.966	198.6500	320.5000	215.94
13.000	12.961	169.6100	275.7000	214.31
14.000	13.956	144.6400	237.1000	212.56
15.000	14.950	123.1900	203.8000	210.61
16.000	15.944	104.7600	174.8000	208.76
17.000	16.938	89.0070	149.2000	207.83
18.000	17.932	75.6050	126.5000	208.17
19.000	18.925	64.2580	107.0000	209.18
20.000	19.918	54.6660	90.4900	210.45
21.000	20.911	46.5530	76.5900	211.75
22.000	21.903	39.6860	64.8800	213.10
23.000	22.895	33.8680	55.0300	214.41
24.000	23.887	28.9310	46.7300	215.66
25.000	24.878	24.7370	39.7400	216.84
26.000	25.869	21.1680	33.8700	217.74
27.000	[illegible]	[illegible]	[illegible]	[illegible]
28.000	27.850	15.5430	24.5500	220.60
29.000	28.840	13.3400	20.9200	222.17
30.000	29.830	11.4605	17.8800	223.25
32.000	31.806	8.4954	13.3400	227.70
34.000	33.784	6.3320	9.7530	232.13
36.000	35.760	4.7468	7.1790	236.41
38.000	37.735	[illegible]	5.2900	242.00
40.000	39.708	[illegible]	3.9280	247.40
42.000	41.681	[illegible]	2.9220	254.25
44.000	43.652	[illegible]	2.1910	261.04
46.000	45.622	[illegible]	1.6660	266.04
48.000	47.590	.9634	1.2860	267.88
50.000	49.558	.7496	1.0000	267.97
52.000	51.524	.5830	.7826	266.33
54.000	53.489	[illegible]	.6135	263.71
56.000	55.453	.3504	.4797	261.18
58.000	57.415	.2708	.3742	258.69
60.000	59.377	.2087	.2915	255.93
62.000	61.337	.1602	.2282	251.01
64.000	[illegible]	.1222	.1797	243.10
66.000	65.253	.0926	.1384	239.28
68.000	67.209	.0697	.1076	231.61
70.000	59.165	.0521	.0825	225.68

TABLE IV-13. HYDROSTATIC MODEL ATMOSPHERE

ANNUAL

STATION = 723810 EDWARDS AIR FORCE BASE

Z KM	GEO. HT. KM	P MB	D G/M3	TV DEG K
.000	.000	1014.3000	1232.0000	287.23
.705	.704	932.7000	1135.0000	286.27
1.000	.999	900.6000	1087.0000	288.50
2.000	1.997	799.4200	980.7000	283.98
3.000	2.996	708.0400	887.4000	277.96
4.000	3.994	625.4100	802.5000	271.51
5.000	4.991	550.7500	724.9000	264.69
6.000	5.989	483.4000	653.5000	257.69
7.000	[illegible]	422.7300	[illegible]	250.44
8.000	7.982	368.2500	528.0000	242.97
9.000	8.979	319.4000	472.6000	235.43
10.000	9.975	275.8100	420.8000	228.36
11.000	10.970	237.1600	371.7000	222.30
12.000	11.966	203.1900	325.2000	217.67
13.000	12.961	173.6300	281.5000	214.85
14.000	13.956	149.1100	242.7000	212.56
15.000	14.950	[illegible]	209.0000	210.19
16.000	15.944	107.2300	179.0000	208.65
17.000	16.938	91.1200	152.3000	208.38
18.000	17.932	77.4460	129.0000	209.16
19.000	18.925	65.8900	108.9000	210.78
20.000	19.918	56.1310	92.0300	212.47
21.000	20.911	47.8870	77.7800	214.47
22.000	21.903	40.9090	65.9700	216.04
23.000	22.895	34.9890	56.0300	217.56
24.000	23.887	29.9560	47.7100	218.75
25.000	24.878	25.6730	40.6000	220.28
26.000	25.869	22.0270	34.6100	221.74
27.000	26.860	18.9210	29.4800	223.62
28.000	27.850	16.2720	25.1700	225.22
29.000	28.840	14.0110	21.5100	226.91
30.000	29.830	12.0766	18.4200	228.37
32.000	31.808	9.0167	13.5700	233.68
34.000	33.784	6.7711	9.9950	238.18
36.000	35.760	5.1144	7.4020	242.94
38.000	37.735	3.8850	5.5100	247.68
40.000	39.708	2.9689	4.1190	253.38
42.000	41.681	2.2820	3.0790	258.91
44.000	43.652	1.7635	2.3520	263.57
46.000	45.622	1.3679	1.8060	268.27
48.000	47.590	1.0632	1.3990	267.34
50.000	49.558	.8266	1.0890	266.88
52.000	51.524	.6422	.0510	265.31
54.000	53.489	.4981	.6657	263.06
56.000	55.453	.3855	.5200	260.64
58.000	57.415	.2977	.4059	257.84
60.000	59.377	.2291	.3168	254.27
62.000	61.337	.1756	.2484	248.47
64.000	63.295	.1336	.1949	240.89
66.000	65.253	.1008	.1512	234.41
68.000	67.209	.0754	.1178	225.21
70.000	[illegible]	[illegible]	[illegible]	[illegible]

APPENDIX A

EXAMPLES OF WIND STATISTICS FOR EDWARDS AFB, CALIFORNIA
(Data for 32-70 km altitude is from Point Mugu, California)

Appendix A gives some examples of graphical displays of wind statistics that can be derived from the statistical parameters presented in table I. These illustrations should aid the user of the RRA to understand the functional relationships of the probability wind models and, thus, to develop an appreciation of the powerful properties of the bivariate normal probability distribution function.

All illustrations for this appendix are derived from the five wind component statistical parameters from table I.1 for January and table I.7 for July for eight selected altitudes. These selected altitudes are 4, 12, 20, 30, 40, 50, 60, and 70 km.

1. Windspeed (Figures A-1 through A-4)

The five wind component parameters from table I are used in equation (29) to calculate the generalized Rayleigh probability density function (pdf) and are then numerically integrated as indicated by equation (30) to obtain the probability distribution function (PDF) for windspeed.

a. For the altitudes 4, 12, 20, and 30 km for January (figure A-1) and July (figure A-2), the PDF is interpolated for the percentile values shown in tabular form in figures A-1 and A-2.

b. For the altitudes 40, 50, 60, and 70 km, the PDFs are plotted on a normal probability scale as shown in figures A-3 and A-4.

2. Frequency of Wind Direction (Figures A-5 through A-20)

The derived frequencies for wind direction shown in figures A-5 through A-20 were obtained using the five wind component parameters from tables I.1 and I.7 as input values in equation (35). The limits of integration (performed numerically) are over the 22.5-degree interval for each of the 16 compass points. These graphs give the percentage frequency that the wind will blow from the direction intervals.

3. Mean Wind Components and 80th Interpercentile Range of Wind Components (Figures A-21 through A-36)

The wind component means with respect to any orthogonal axes are obtained by using the zonal and meridional mean wind components in equations (44) and (45). These component means form the circles shown in figures A-21 through A-36. Further, the zonal and meridonal wind component variances and correlation coefficients are used in equations (46) and (47) to obtain the variances with respect to any orthogonal axes. These rotated component variances and the rotated component means are used in equation (8) to obtain the 80th interpercentile range of wind components and are then illustrated in figures A-21 through A-36.

4. Probability Ellipses (Figures A-37 through A-52)

Using the five wind component parameters from tables I.1 and I.7 and p = 0.50, p = 0.95, and p = 0.99 as input values to equation (13), the wind probability ellipses shown in figures A-37 through A-52 were obtained by computer graphics. The statistical inferences are, for example, that 50 percent of the wind vectors lie within the smaller ellipse and 99 percent of the wind vectors lie within the outer ellipse. These probability ellipses are illustrated using the standard meteorological coordinate system explained in section I.B.1.

5. Conditional Windspeed Given the Wind Direction (Figures A-53 through A-68)

The five wind component parameters from table I.1 and table I.7 are used to evaluate the conditional probability distribution function, equation (41). Figures A-53 through A-68 show interpolations of the conditional function made to obtain the 5th, 15th, 50th (median), 85th, 95th, and 99th conditional percentile values of windspeed, given the wind directions. The conditional mean windspeed, given the wind direction, is obtained from equation (40). The conditional mode (most probable) windspeed, given the wind direction, is obtained from equation (38). The conditional mean windspeed and the conditional windspeed modal value, given the wind direction, are also shown in these figures. For some figures, the conditional windspeed values are invalid for the given wind direction near 270° (from the west). This is caused by the lack of computational precision in evaluating equations (40) and (41) when the arguments for the Gaussian probability distribution have large negative values, i.e., when the coefficients (b/a) become less than -4 in these equations.

This appendix contains only a few of the many options in presenting wind statistics illustrations.

P	Altitude (km) 4	12	20	30
(%)	R m/s	R m/s	R m/s	R m/s
1.0	1.49	3.16	0.96	1.43
2.5	2.44	5.05	1.48	2.36
5.0	3.51	7.17	2.19	3.41
10.0	5.07	10.27	3.16	4.97
15.0	6.29	12.74	3.95	6.22
20.0	7.38	14.91	4.62	7.36
30.0	9.34	18.78	5.88	9.50
40.0	11.18	22.39	7.08	11.65
50.0	13.03	25.97	8.33	13.95
60.0	14.98	29.71	9.68	16.58
70.0	17.18	33.86	11.26	19.73
80.0	19.88	38.87	13.28	23.83
85.0	21.60	42.00	14.60	26.53
90.0	23.80	46.00	16.31	30.05
95.0	27.17	52.00	18.92	35.51
97.5	30.17	57.27	21.27	40.40
99.0	33.75	63.44	24.00	46.21

Figure A-1. Derived (Rayleigh) percentile values of windspeed, Edwards AFB, California, January.

P	Altitude (km) 4	12	20	30
(%)	R m/s	R m/s	R m/s	R m/s
1.0	0.80	2.40	3.55	10.47
2.5	1.34	3.85	4.34	11.73
5.0	2.01	5.42	5.09	12.81
10.0	2.84	7.65	5.87	14.06
15.0	3.50	9.35	6.37	14.87
20.0	4.11	10.80	6.82	15.52
30.0	5.14	13.29	7.51	16.60
40.0	6.09	15.51	8.12	17.52
50.0	7.02	17.65	8.68	18.39
60.0	7.99	19.84	9.24	19.25
70.0	9.06	22.21	9.84	20.17
80.0	10.36	25.02	10.56	21.26
85.0	11.16	26.77	10.95	21.90
90.0	12.20	28.97	11.55	22.76
95.0	13.78	32.28	12.36	23.96
97.5	15.17	35.16	12.98	25.02
99.0	16.84	38.55	13.85	26.33

Figure A-2. Derived (Rayleigh) percentile values of windspeed, Edwards AFB, California, July.

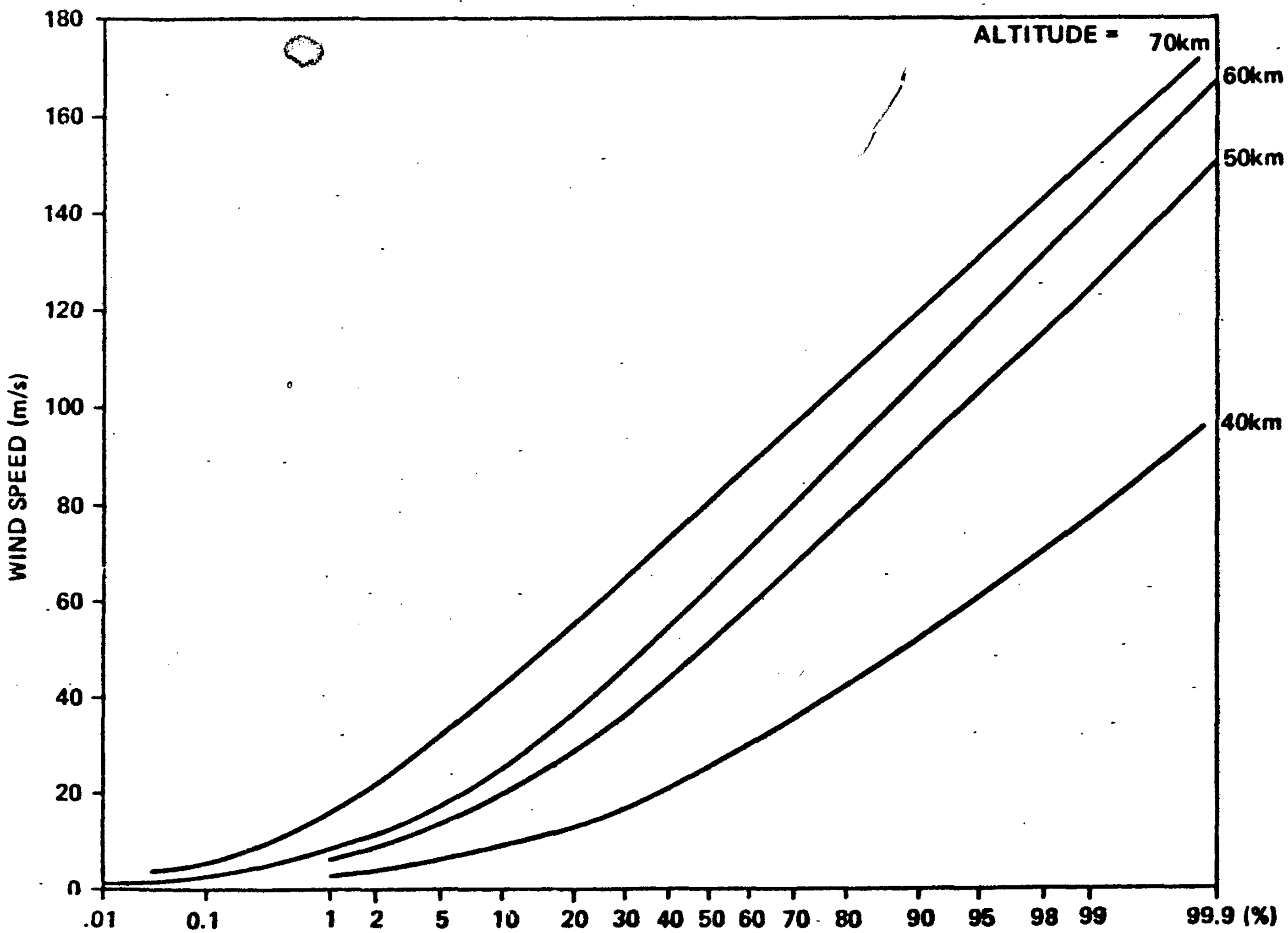


Figure A-3. Rayleigh PDF of windspeed, Edwards AFB, January.

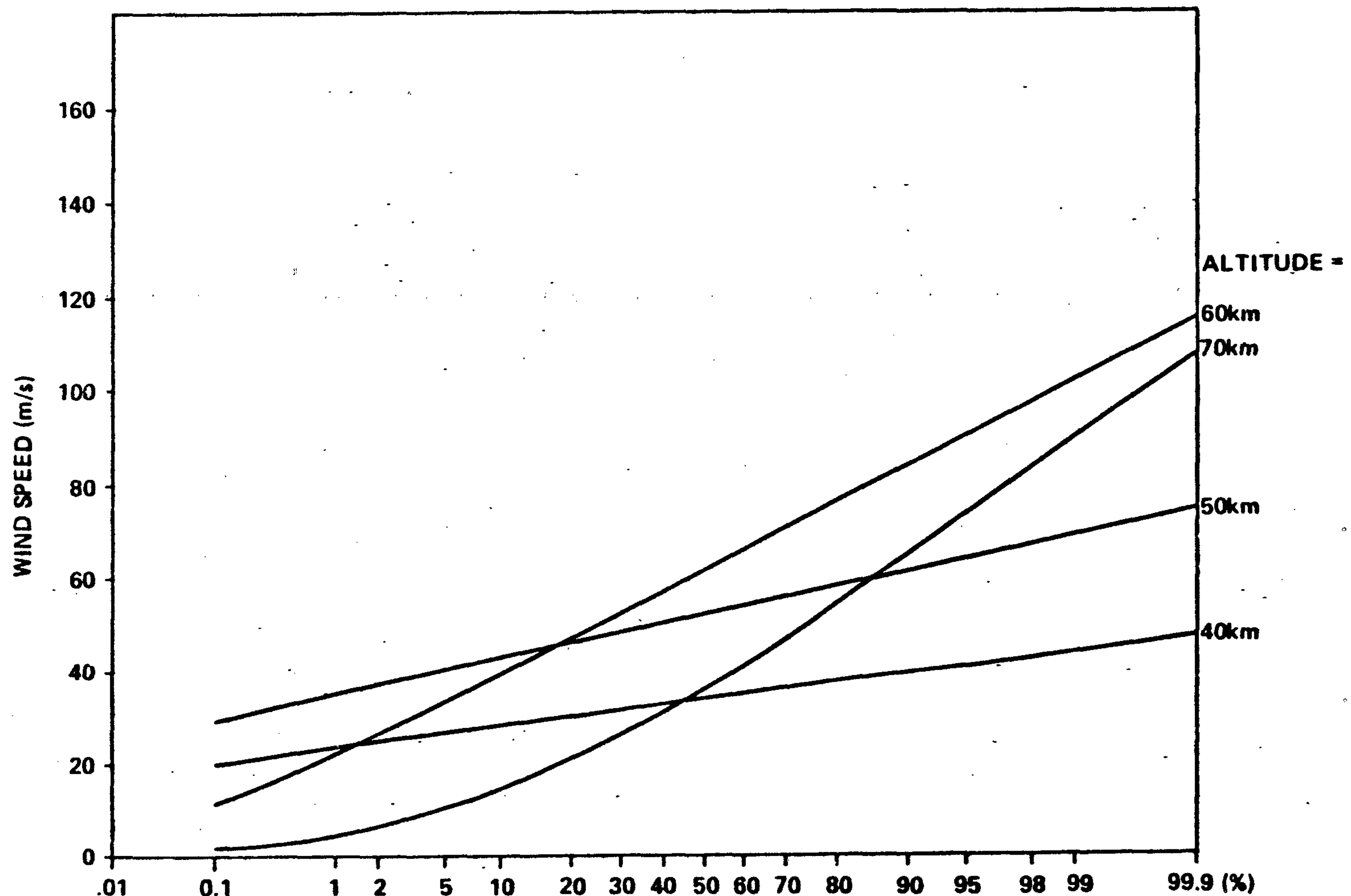
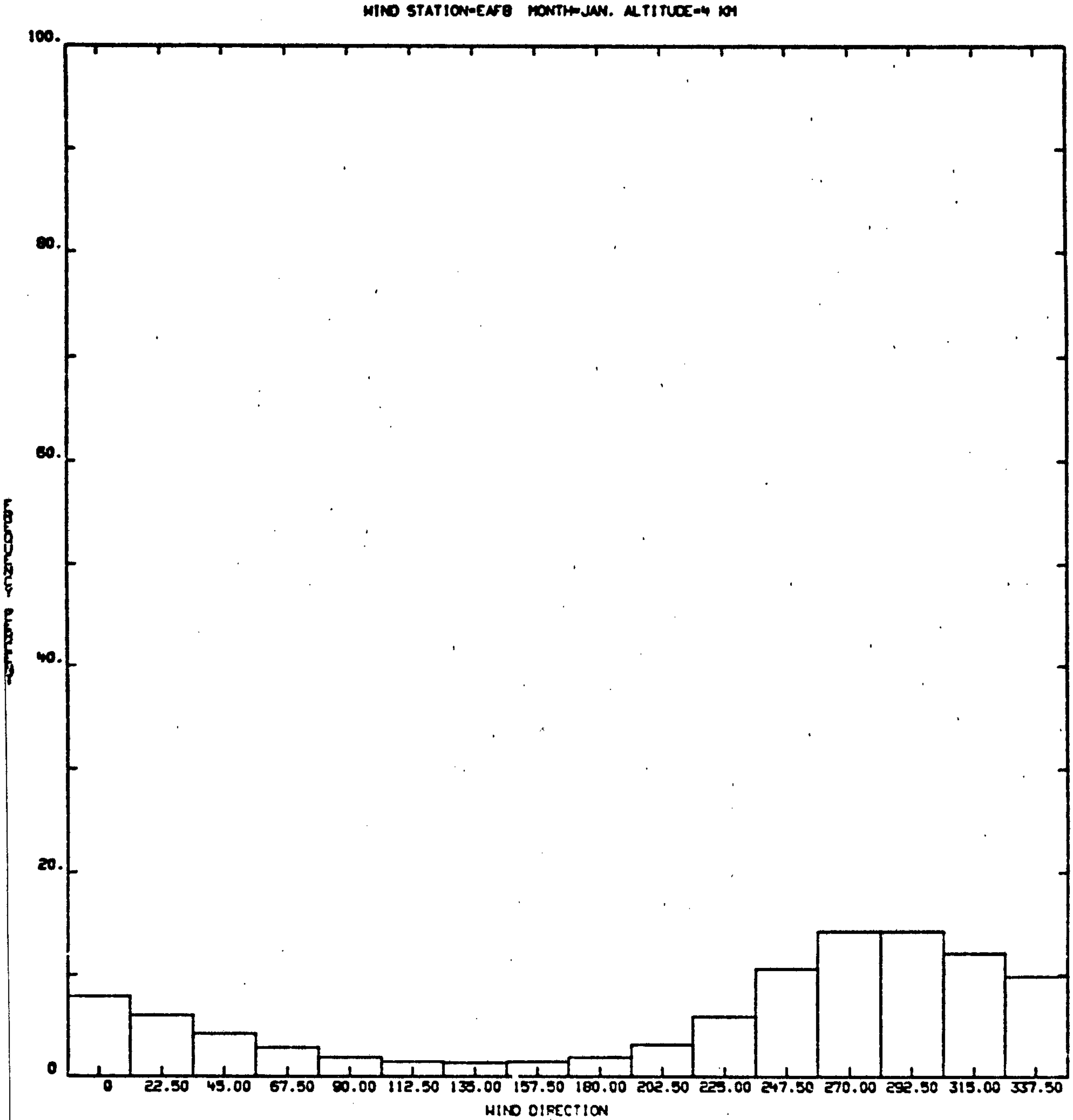
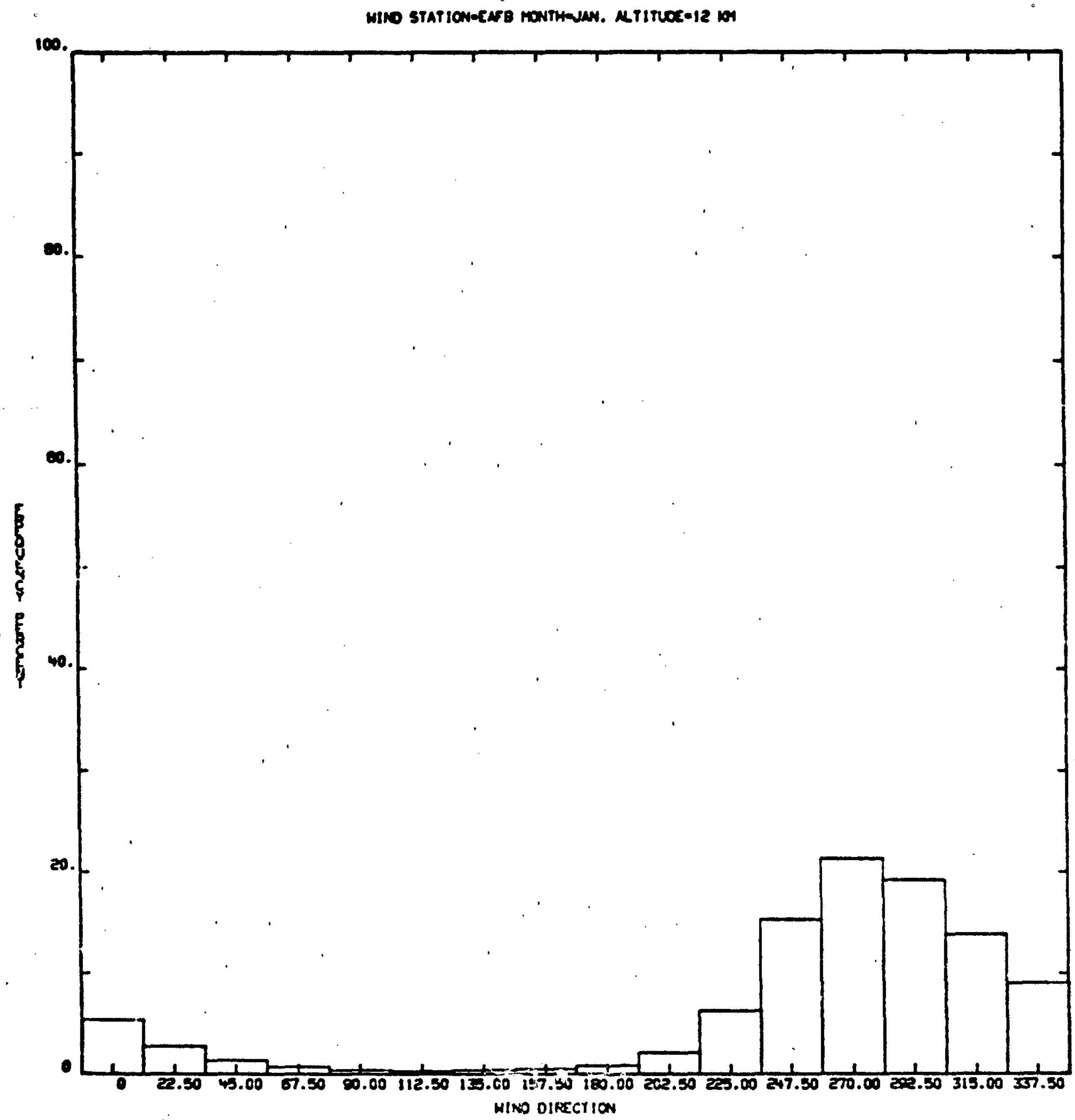


Figure A-4. Rayleigh PDF of windspeed, Edwards AFB, July.



WIND STATION=EAFB MONTH=JAN. ALTITUDE=4 KM
100.
80.
60.
40.
20.
0
FREQUENCY PERCENT
0
22.50
45.00
67.50
90.00
112.50
135.00
157.50
180.00
202.50
225.00
247.50
270.00
292.50
315.00
337.50
WIND DIRECTION

Figure A-5.



WIND STATION=EAFB MONTH=JAN. ALTITUDE=12 KM
100.
80.
60.
40.
20.
0
FREQUENCY PERCENT
0
22.50
45.00
67.50
90.00
112.50
135.00
157.50
180.00
202.50
225.00
247.50
270.00
292.50
315.00
337.50
WIND DIRECTION

Figure A-6.

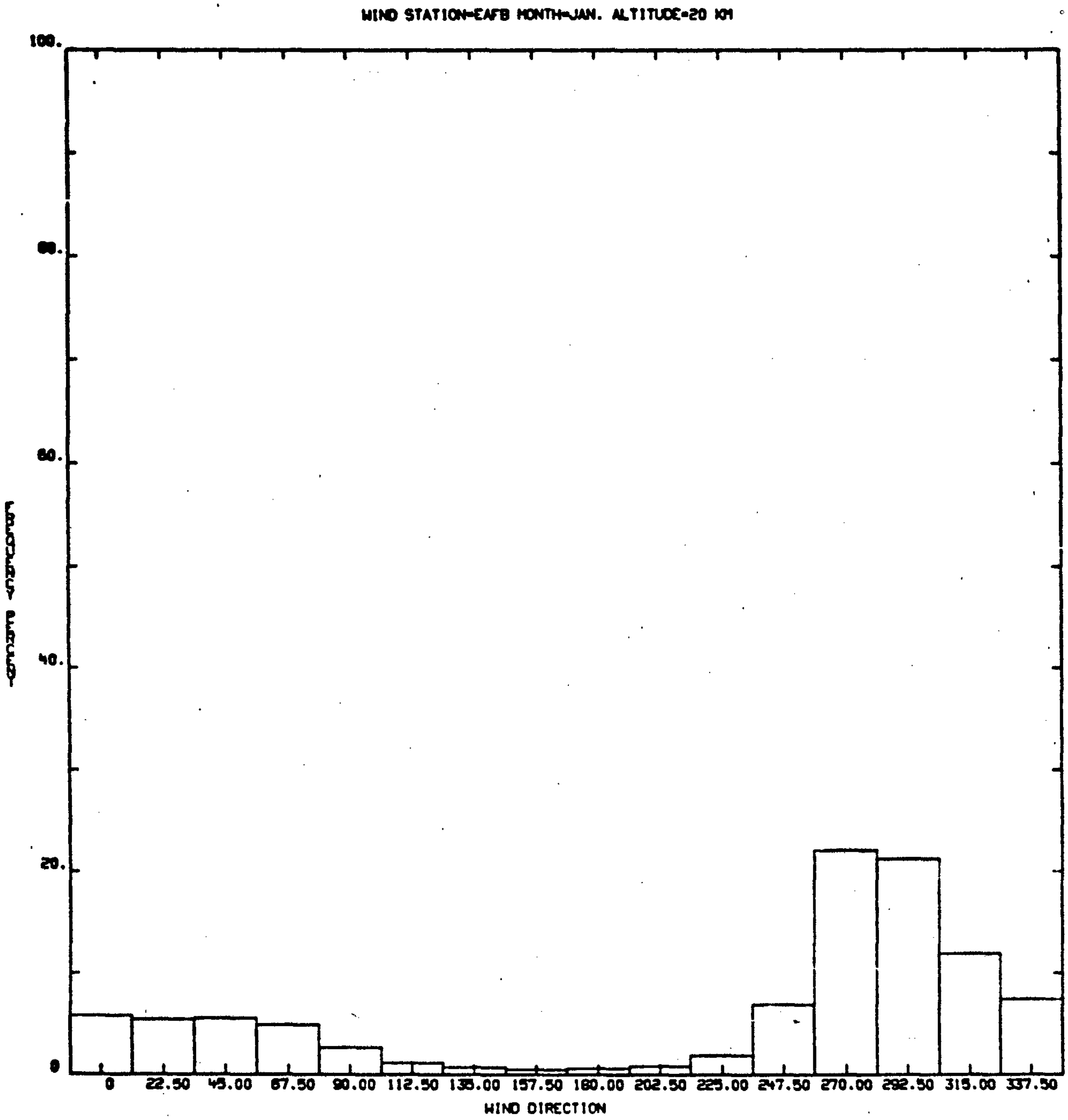

WIND STATION=EAFB MONTH=JAN. ALTITUDE=20 KM
100.
80.
60.
40.
20.
0
FREQUENCY PERCENT
0
22.50
45.00
67.50
90.00
112.50
135.00
157.50
180.00
202.50
225.00
247.50
270.00
292.50
315.00
337.50
WIND DIRECTION

Figure A-7.

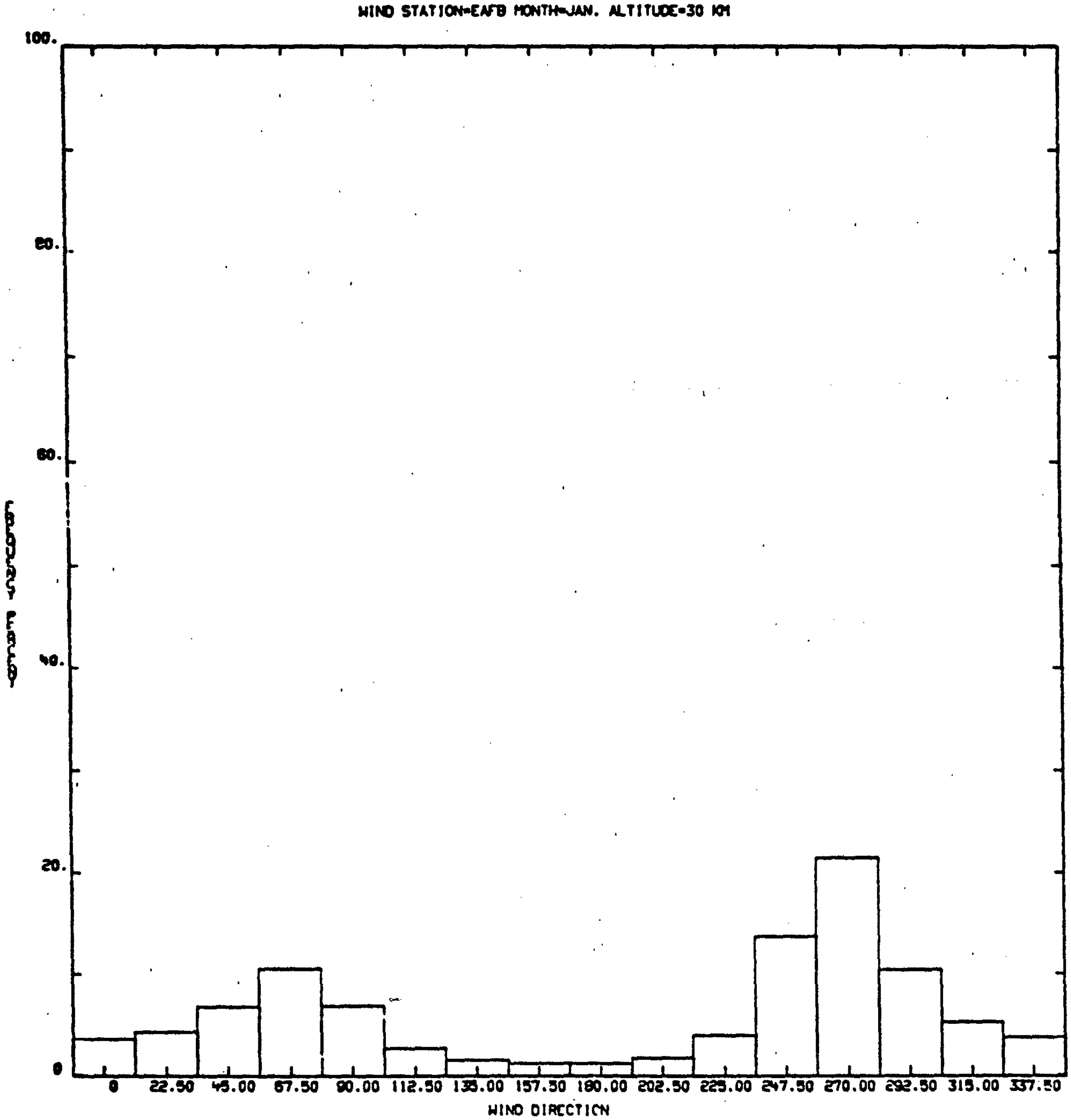
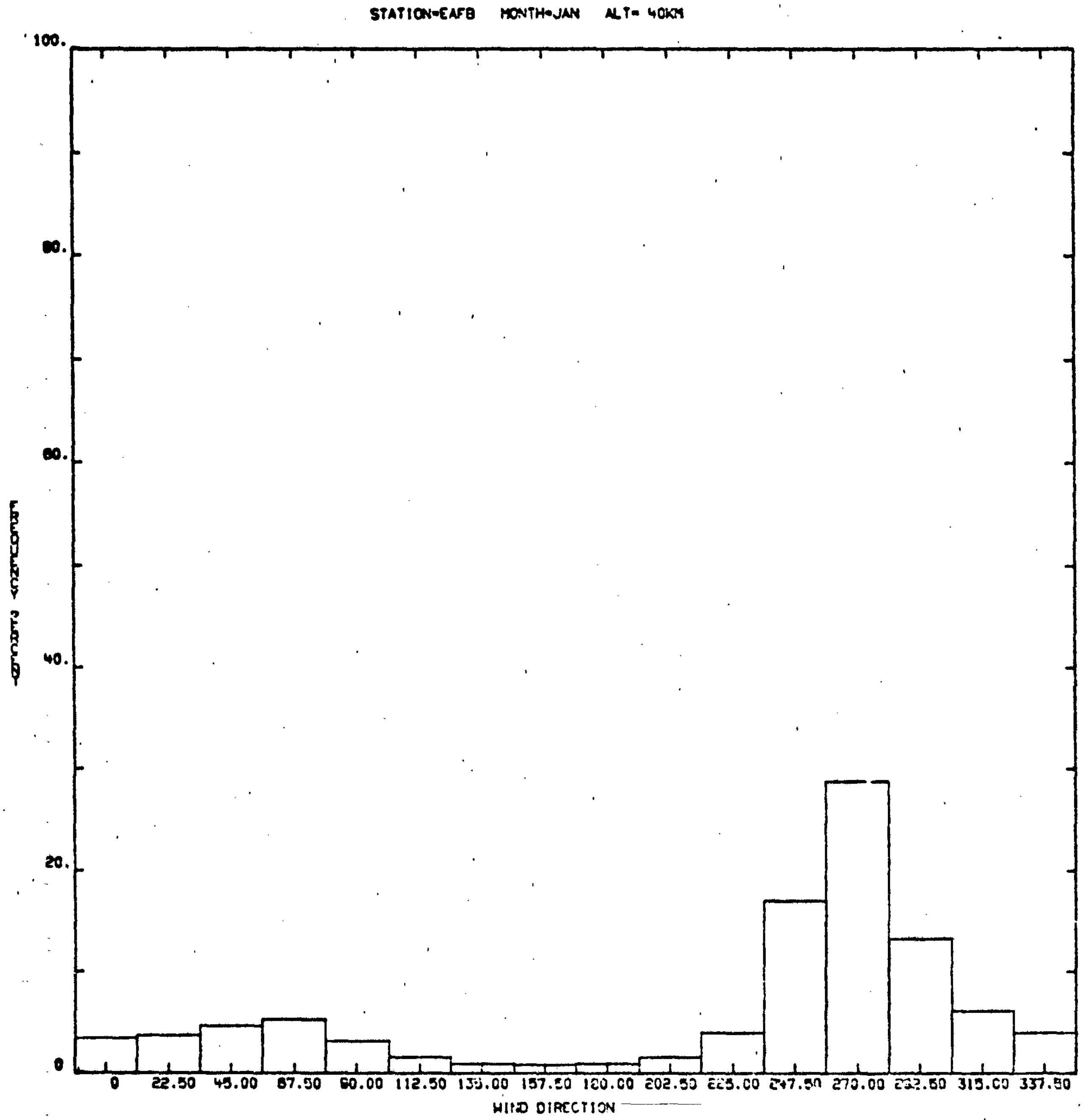

WIND STATION=EAFB MONTH=JAN. ALTITUDE=30 KM
100.
80.
60.
40.
20.
0
FREQUENCY PERCENT
0
22.50
45.00
67.50
90.00
112.50
135.00
157.50
180.00
202.50
225.00
247.50
270.00
292.50
315.00
337.50
WIND DIRECTION

Figure A-8.



STATION=EAFB MONTH=JAN ALT= 40KM
100.
80.
60.
40.
20.
0
FREQUENCY PERCENT
0
22.50
45.00
67.50
90.00
112.50
135.00
157.50
180.00
202.50
225.00
247.50
270.00
292.50
315.00
337.50
WIND DIRECTION

Figure A-9.

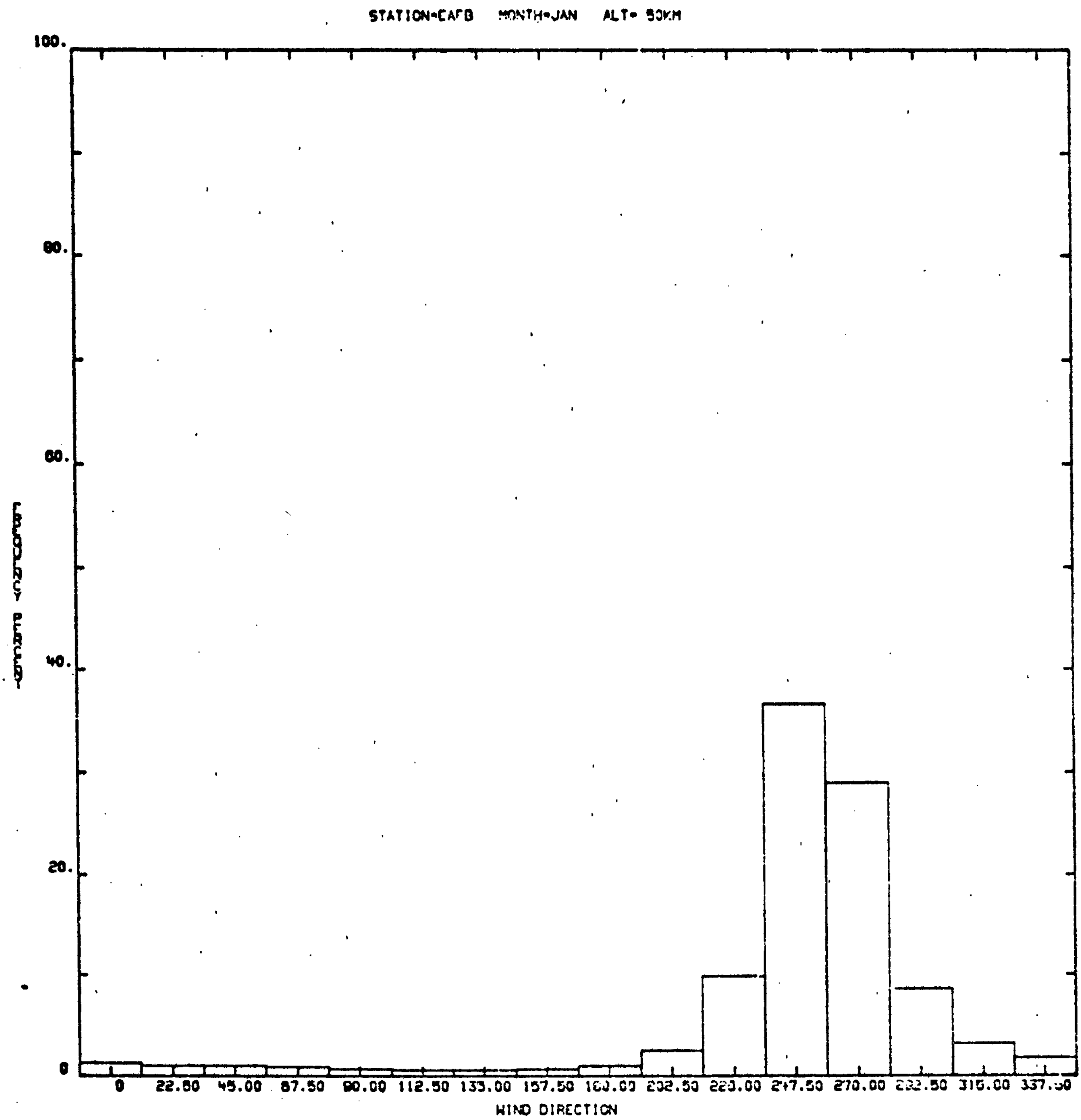

STATION=CAFB MONTH=JAN ALT= 50KM
100.
80.
60.
40.
20.
0
0
22.50
45.00
67.50
90.00
112.50
135.00
157.50
180.00
202.50
225.00
247.50
270.00
292.50
315.00
337.50
WIND DIRECTION

Figure A-10.

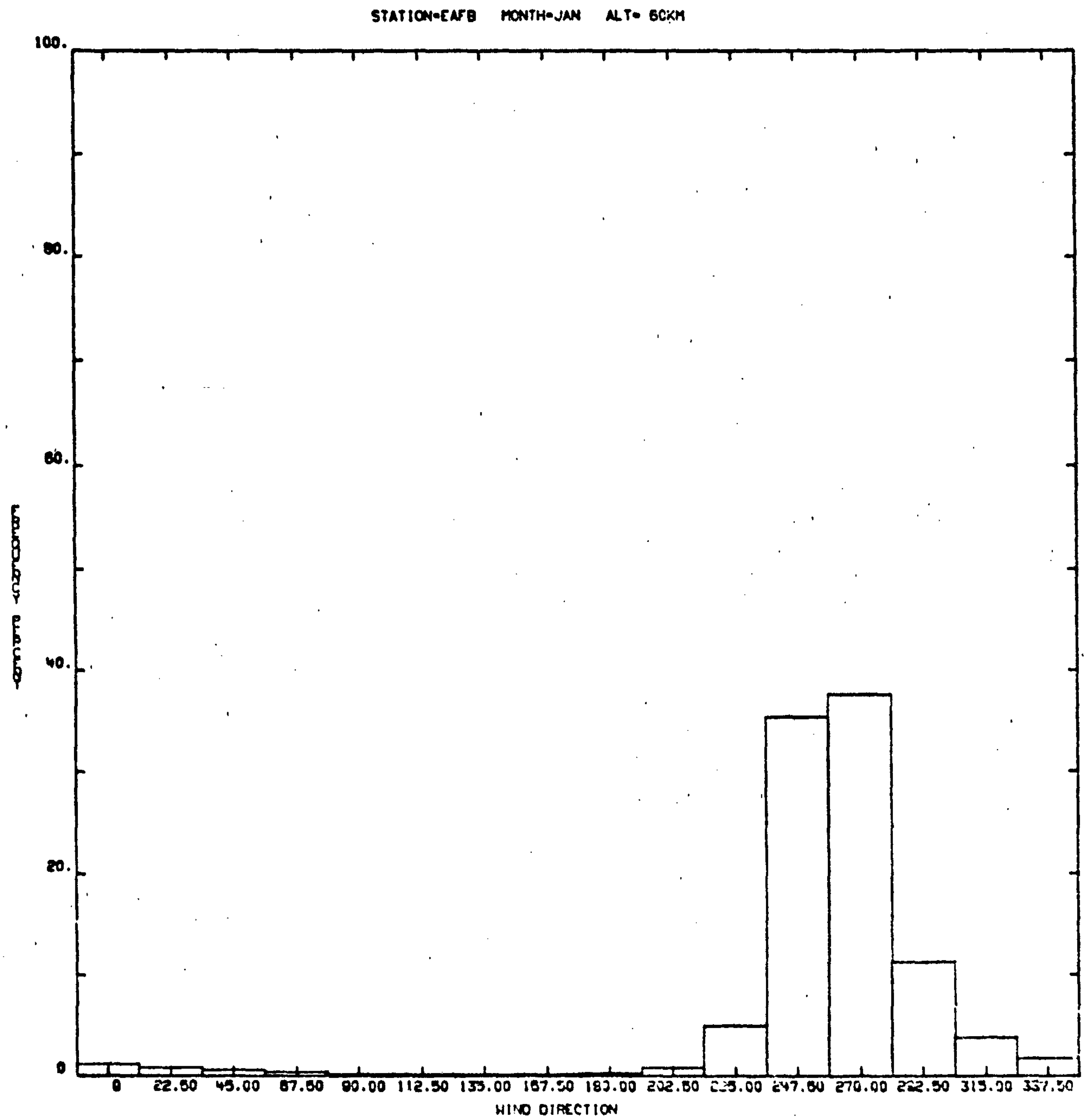

STATION=EAFB MONTH=JAN ALT= 60KM
100.
80.
60.
40.
20.
0
0 22.50 45.00 67.50 90.00 112.50 135.00 157.50 180.00 202.50 225.00 247.50 270.00 292.50 315.00 337.50
WIND DIRECTION

Figure A-11.

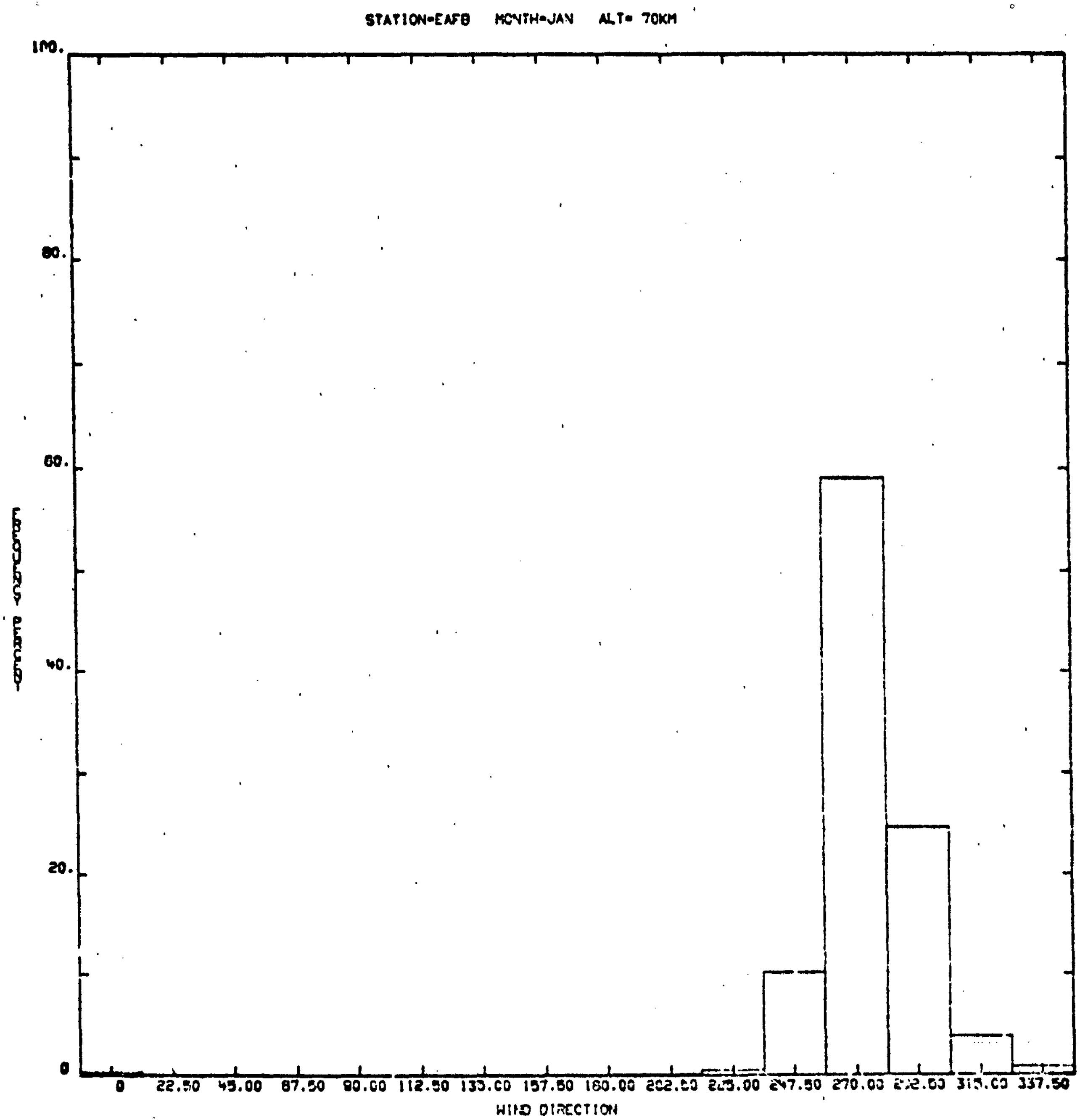
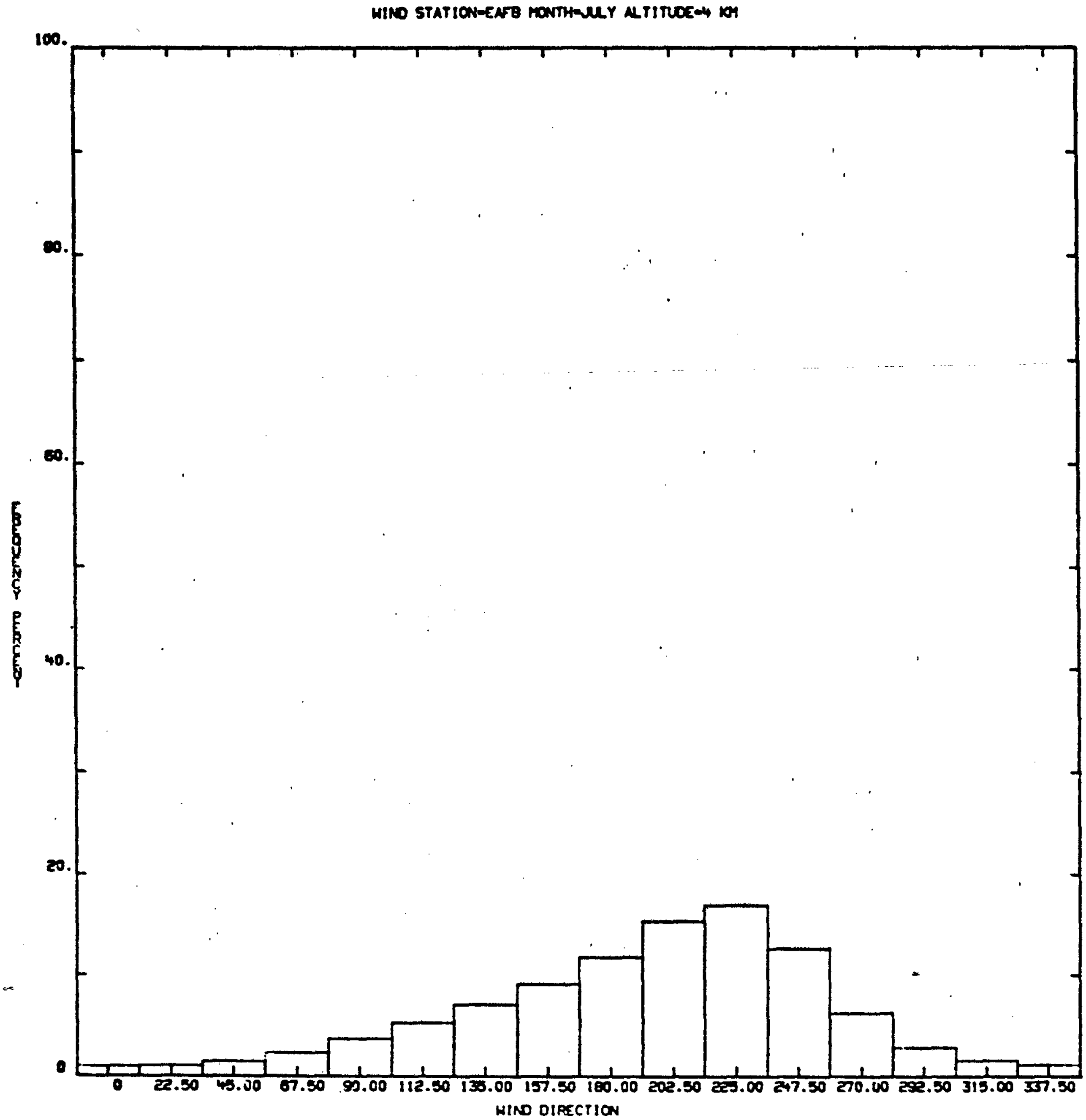

STATION=EAFB MONTH=JAN ALT= 70KM
100.
80.
60.
40.
20.
0
0 22.50 45.00 67.50 90.00 112.50 135.00 157.50 180.00 202.50 225.00 247.50 270.00 292.50 315.00 337.50
WIND DIRECTION

Figure A-12.



WIND STATION=EAFB MONTH=JULY ALTITUDE=4 KM
100.
80.
60.
40.
20.
0
FREQUENCY PERCENT
0
22.50
45.00
67.50
90.00
112.50
135.00
157.50
180.00
202.50
225.00
247.50
270.00
292.50
315.00
337.50
WIND DIRECTION

Figure A-13.

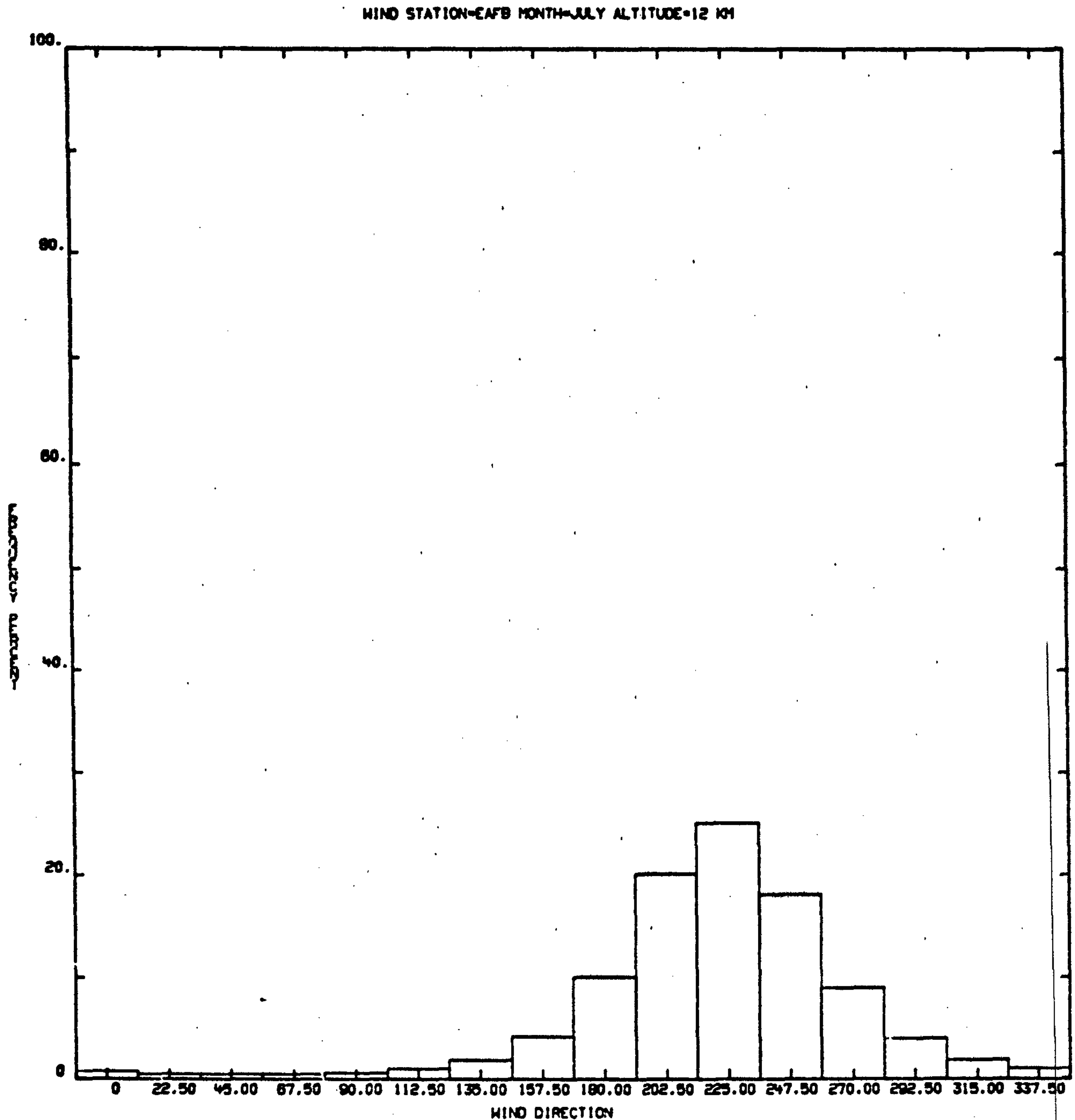
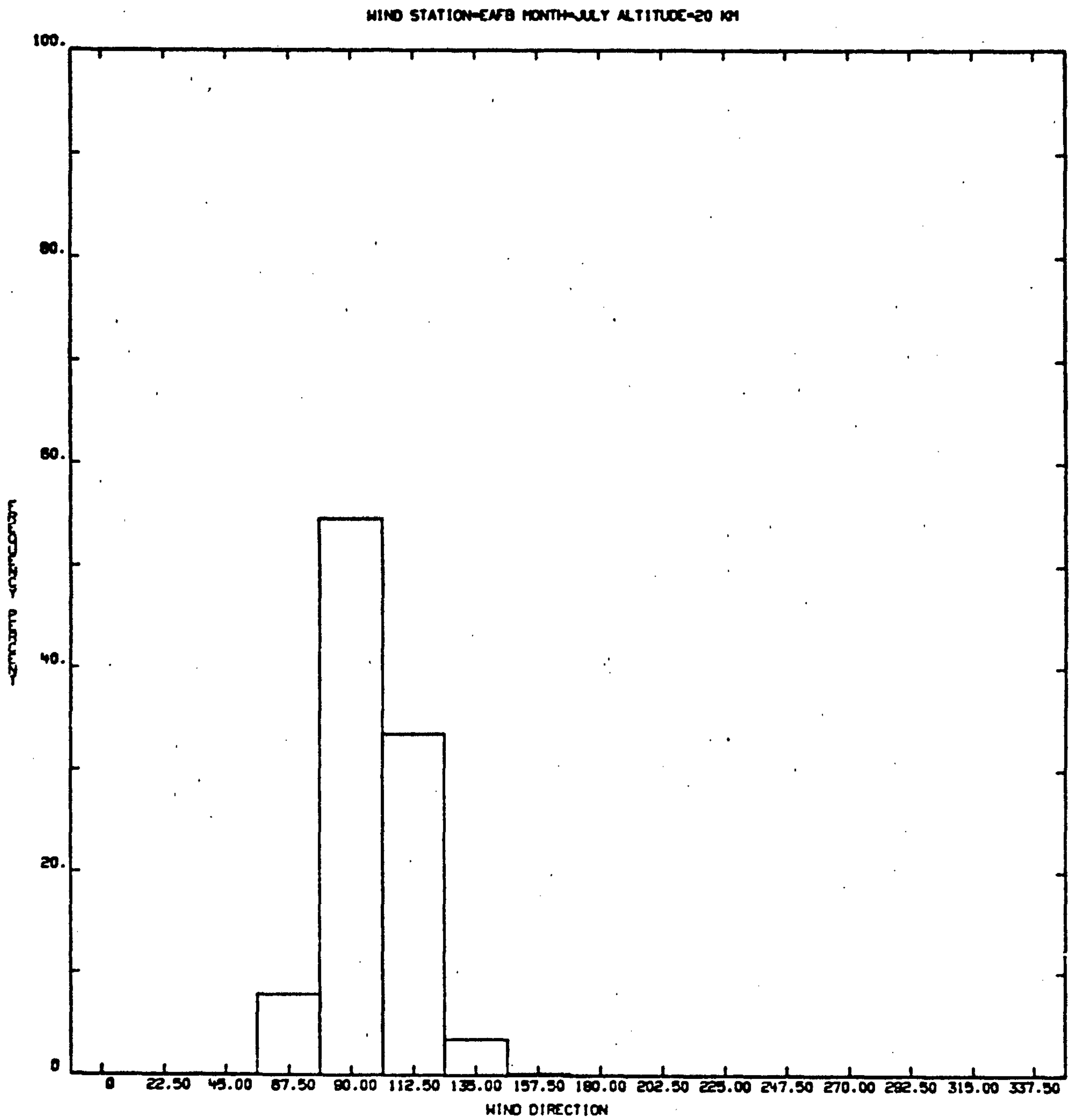
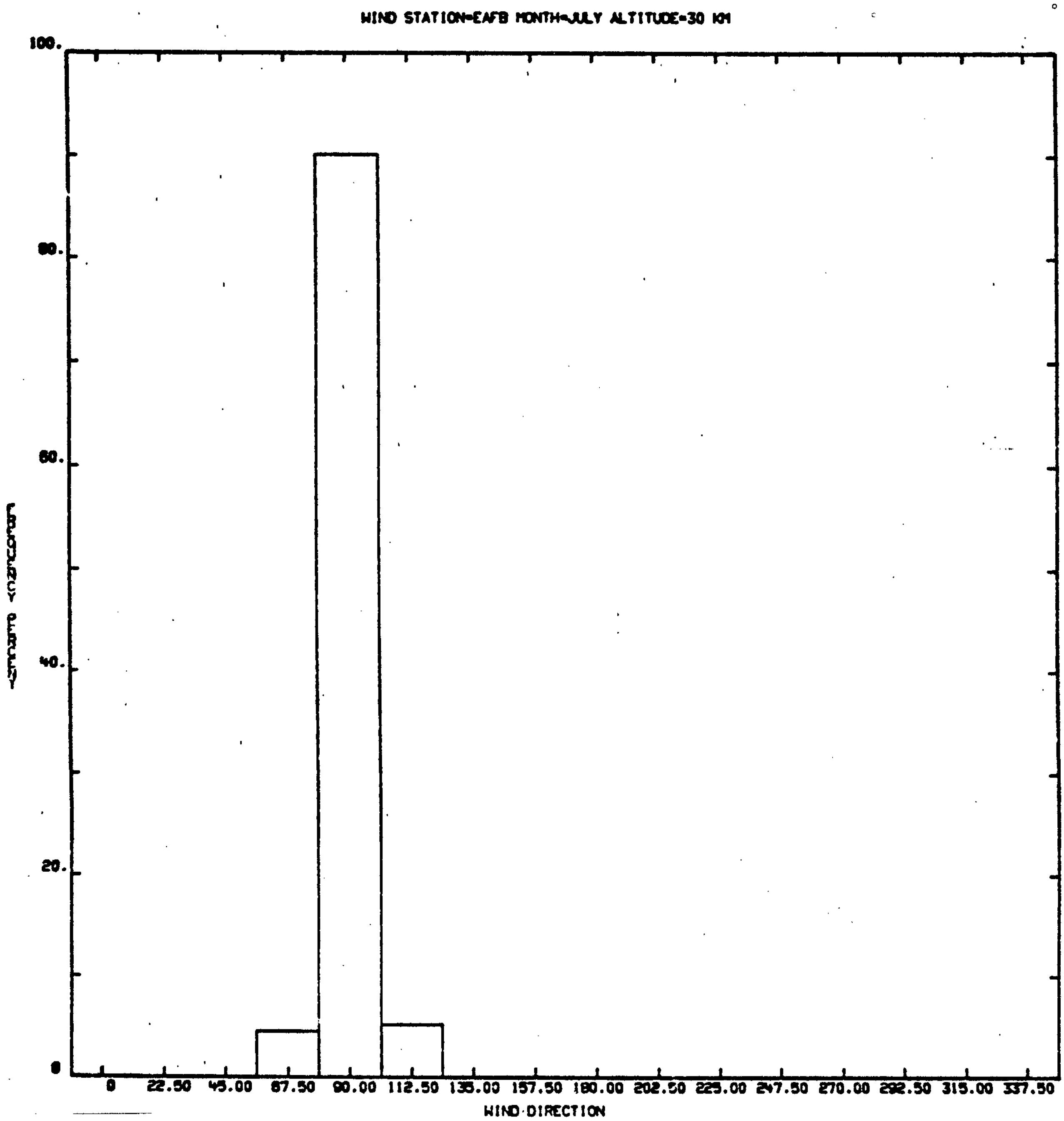

WIND STATION=EAFB MONTH=JULY ALTITUDE=12 KM
100.
80.
60.
40.
20.
0
FREQUENCY PERCENT
0
22.50
45.00
67.50
90.00
112.50
135.00
157.50
180.00
202.50
225.00
247.50
270.00
292.50
315.00
337.50
WIND DIRECTION

Figure A-14.



WIND STATION=EAFB MONTH=JULY ALTITUDE=20 KM
100.
80.
60.
40.
20.
0
FREQUENCY PERCENT
0
22.50
45.00
67.50
90.00
112.50
135.00
157.50
180.00
202.50
225.00
247.50
270.00
292.50
315.00
337.50
WIND DIRECTION

Figure A-15.



WIND STATION=EAFB MONTH=JULY ALTITUDE=30 KM
100.
80.
60.
40.
20.
0
FREQUENCY PERCENT
0
22.50
45.00
67.50
90.00
112.50
135.00
157.50
180.00
202.50
225.00
247.50
270.00
292.50
315.00
337.50
WIND DIRECTION

Figure A-16.

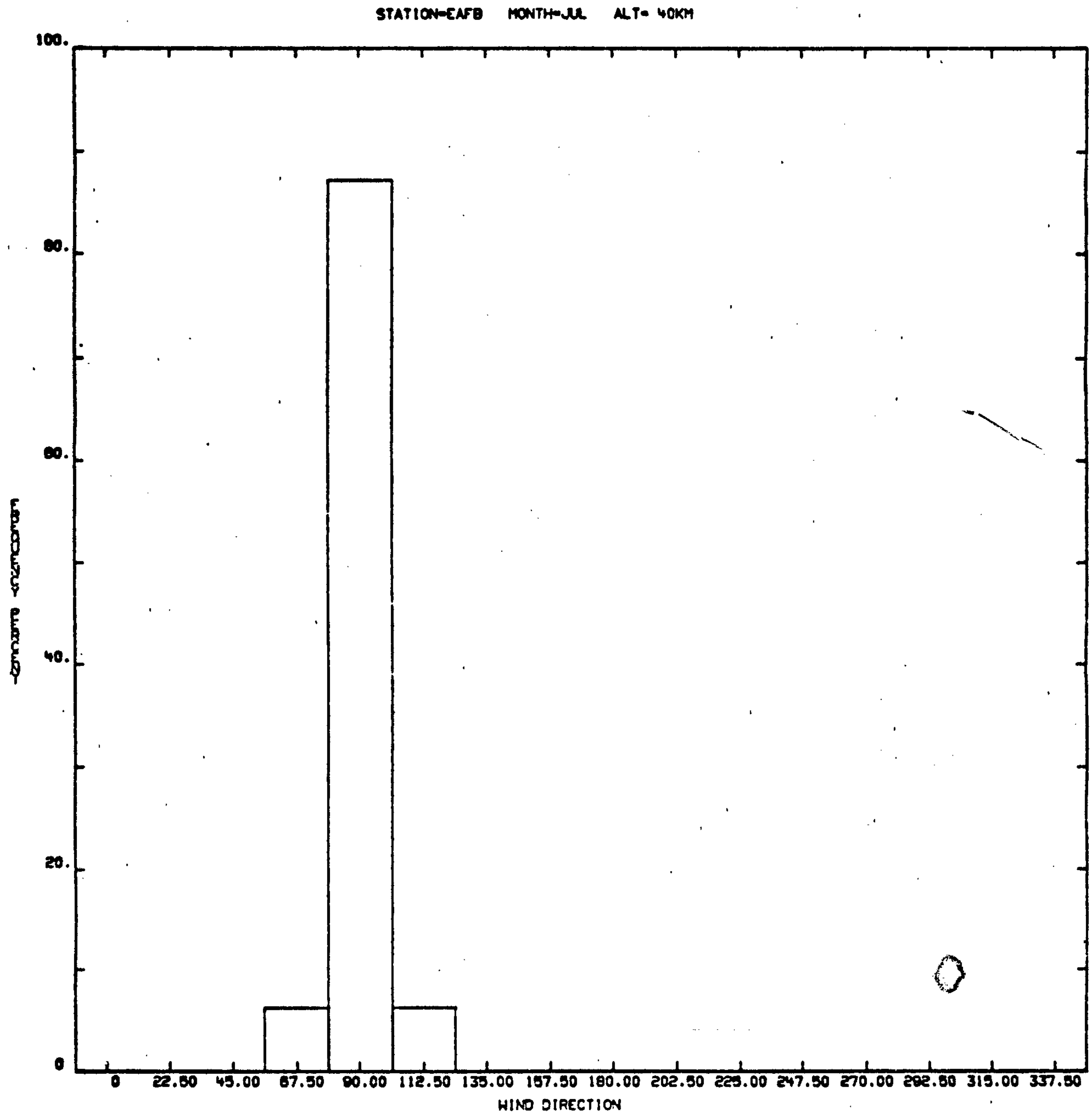

STATION=EAFB MONTH=JUL ALT= 40KM
100.
80.
60.
40.
20.
0
0 22.50 45.00 67.50 90.00 112.50 135.00 157.50 180.00 202.50 225.00 247.50 270.00 292.50 315.00 337.50
WIND DIRECTION

Figure A-17.

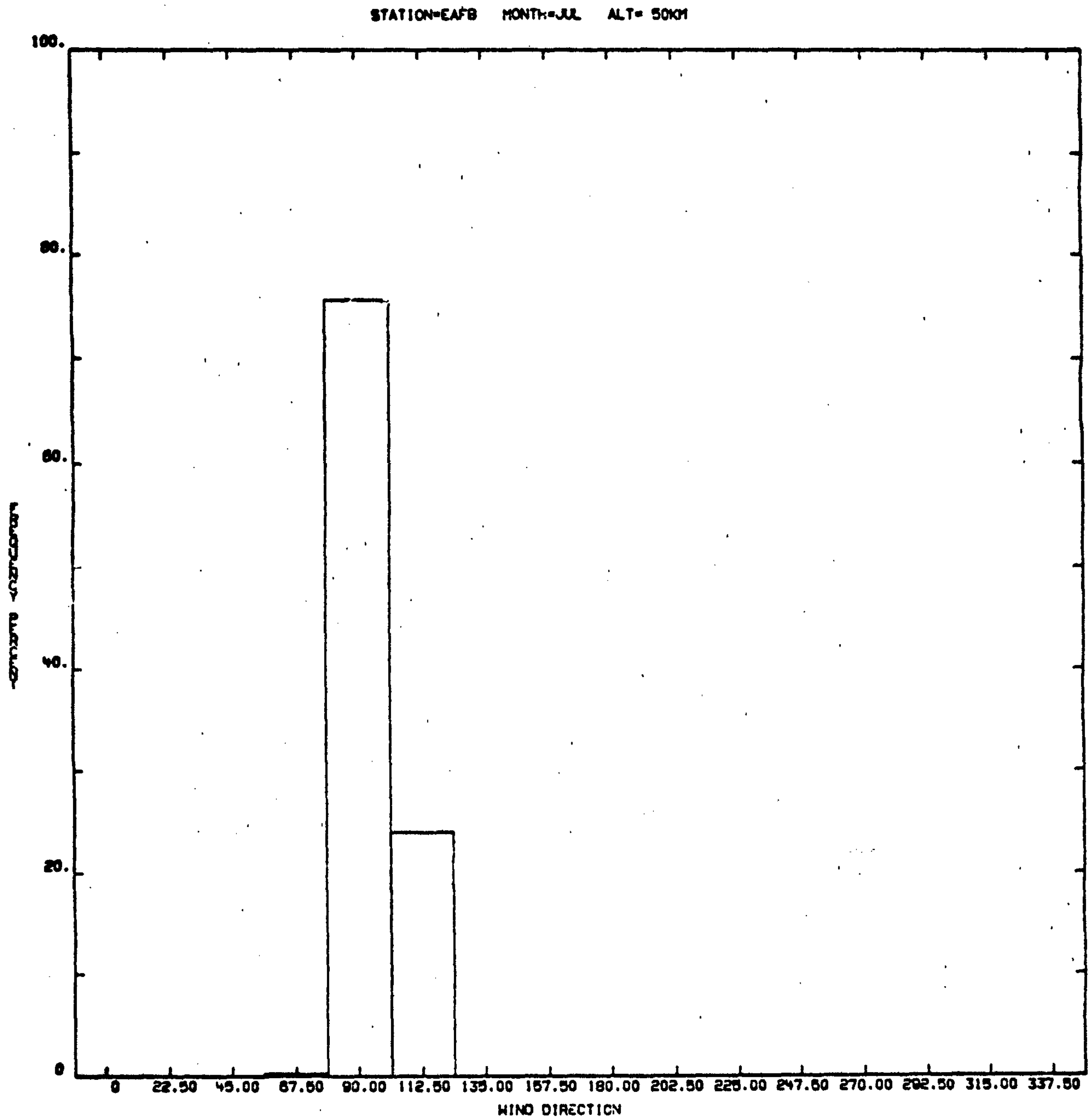
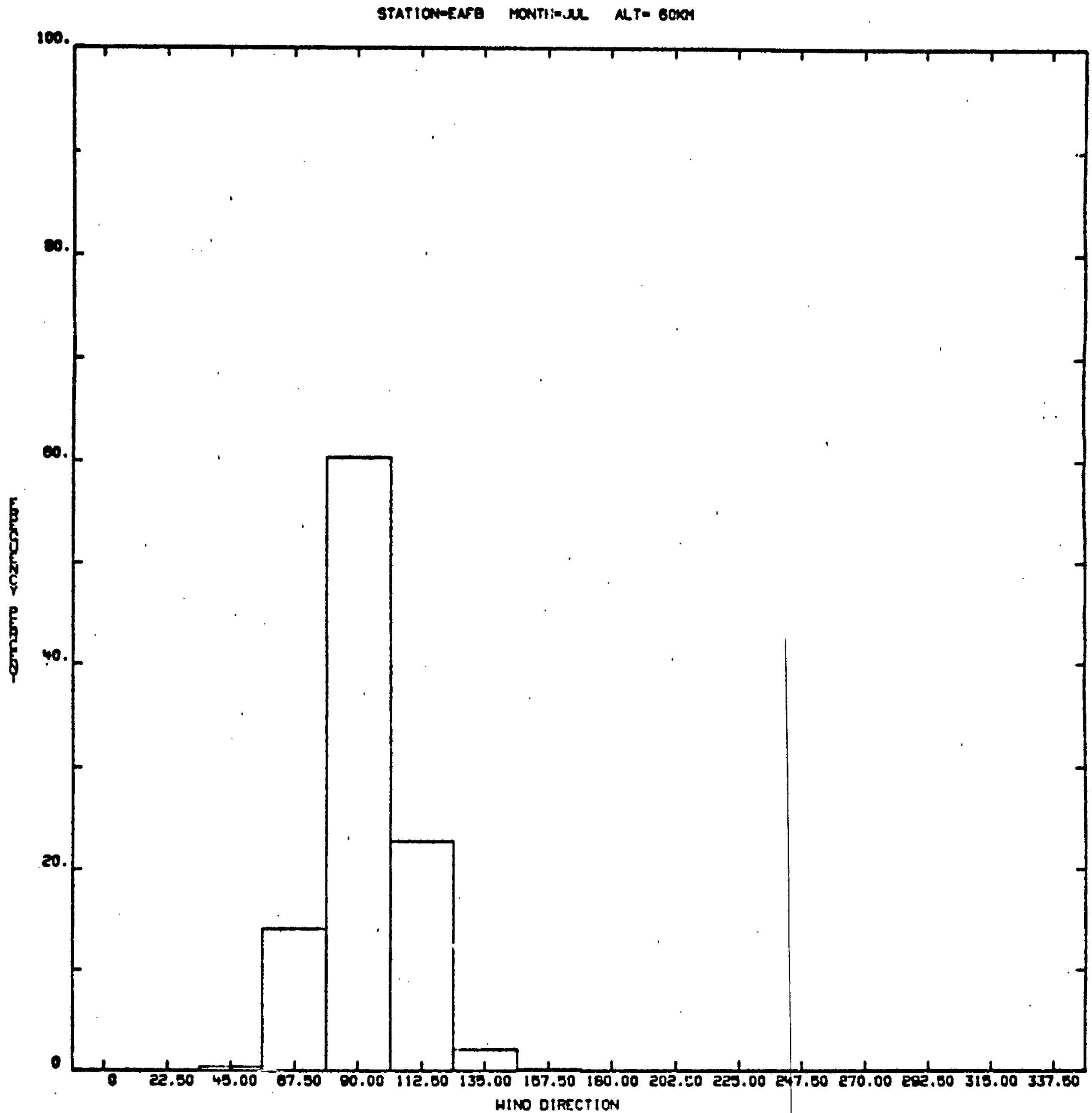

STATION=EAFB MONTH=JUL ALT= 50KM
100.
80.
60.
40.
20.
0
FREQUENCY PERCENT
0 22.50 45.00 67.50 90.00 112.50 135.00 157.50 180.00 202.50 225.00 247.50 270.00 292.50 315.00 337.50
WIND DIRECTION

Figure A-18.



STATION=EAFB MONTH=JUL ALT= 60KM
100.
80.
60.
40.
20.
0
FREQUENCY PERCENT
0
22.50
45.00
67.50
90.00
112.50
135.00
157.50
180.00
202.50
225.00
247.50
270.00
292.50
315.00
337.50
WIND DIRECTION

Figure A-19.

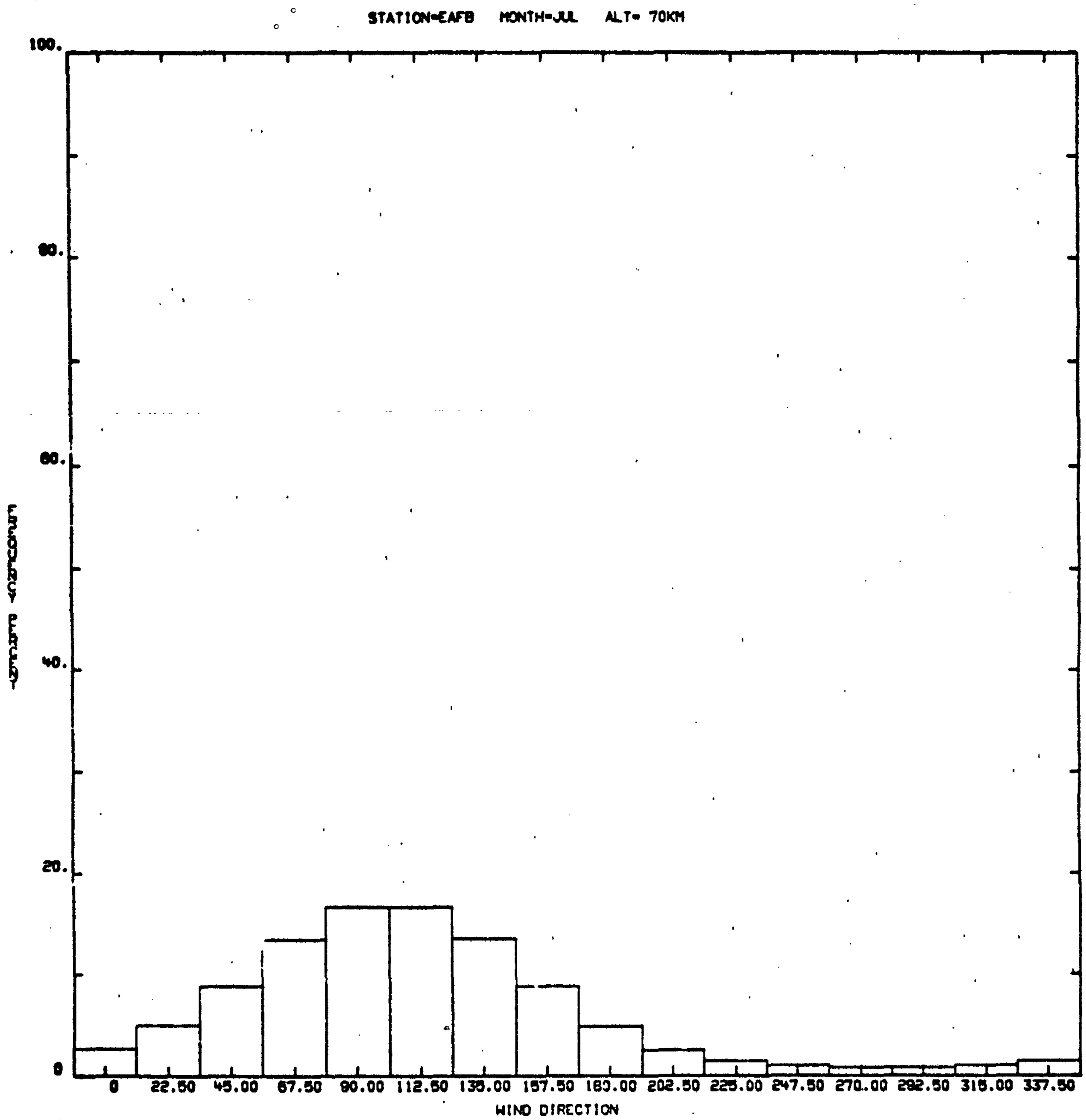

STATION=EAFB MONTH=JUL ALT= 70KM
100.
80.
60.
40.
20.
0
FREQUENCY PERCENT
0
22.50
45.00
67.50
90.00
112.50
135.00
157.50
180.00
202.50
225.00
247.50
270.00
292.50
315.00
337.50
WIND DIRECTION

Figure A-20.

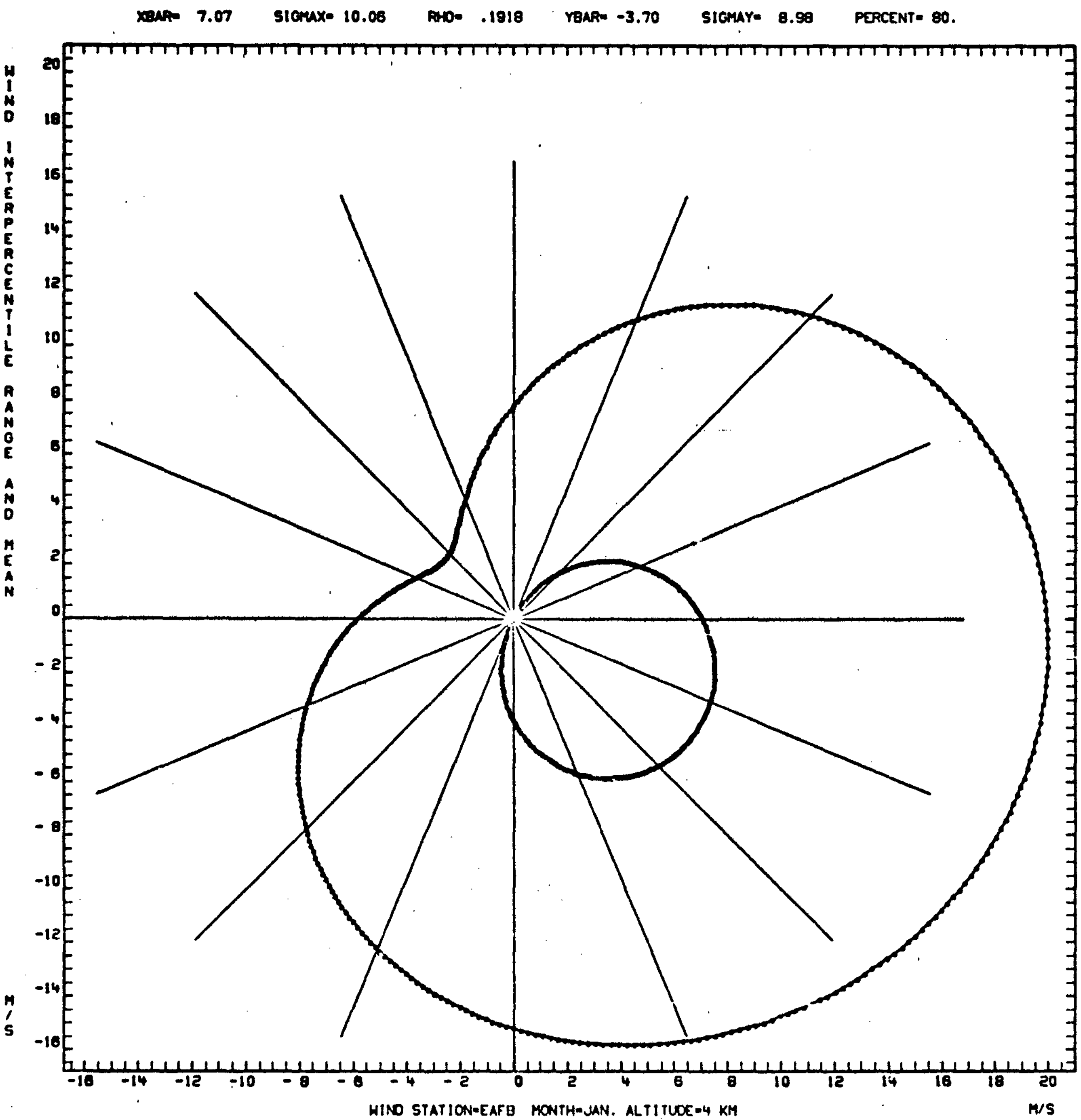

XBAR= 7.07 SIGMAX= 10.06 RHO= .1918 YBAR= -3.70 SIGMAY= 8.98 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-16 -14 -12 -10 -8 -6 -4 -2 0 2 4 6 8 10 12 14 16 18 20
WIND STATION=EAFB MONTH=JAN. ALTITUDE=4 KM
M/S

Figure A-21.

XBAR= 20.71 SIGMAX= 15.56 RHO= .2707 YBAR= -5.27 SIGMAY= 15.34 PERCENT= 80.

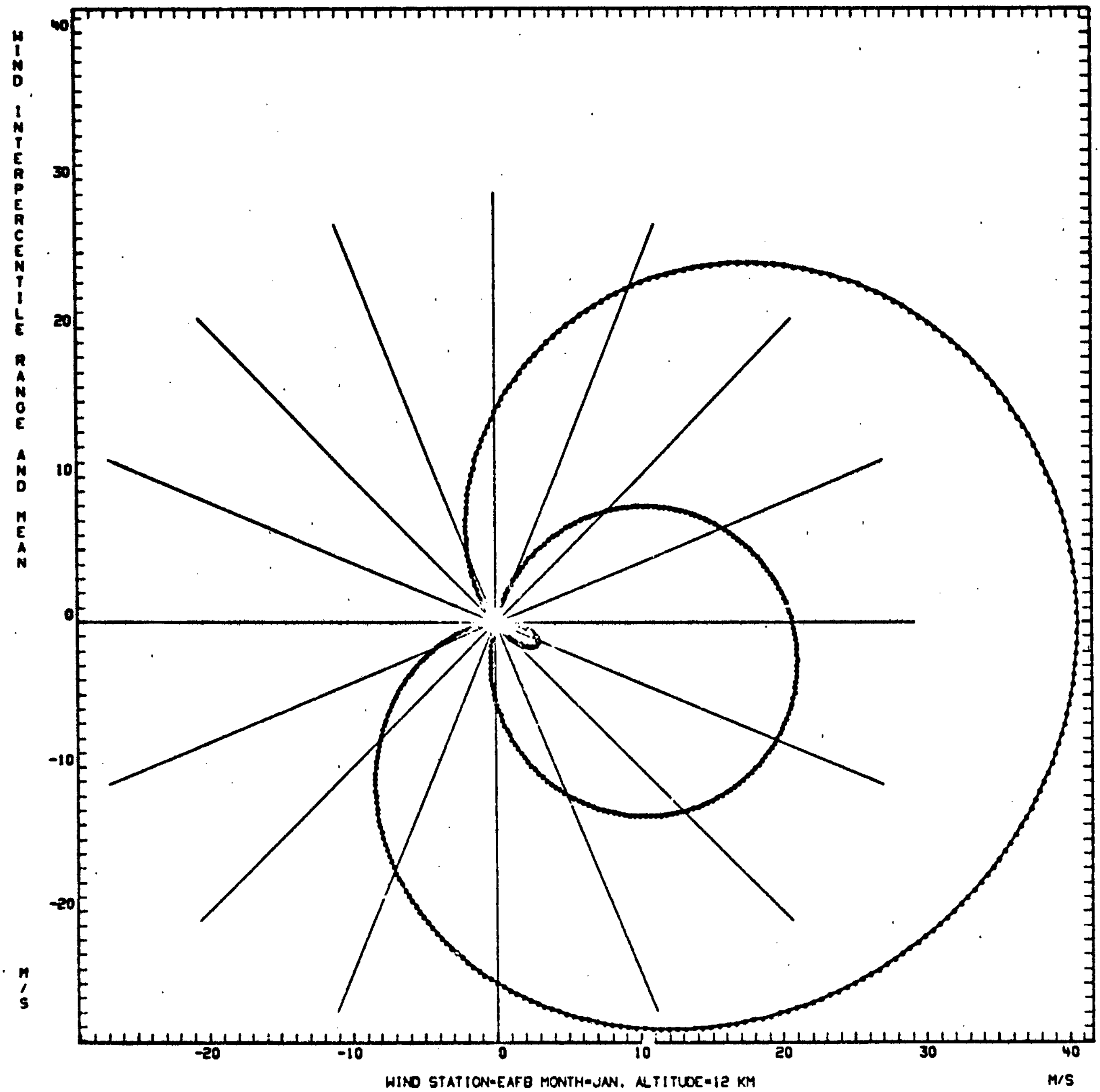


Figure A-22.

XBAR= 5.42 SIGMAX= 7.71 RHO= .1903 YBAR= -2.74 SIGMAY= 3.75 PERCENT= 80.

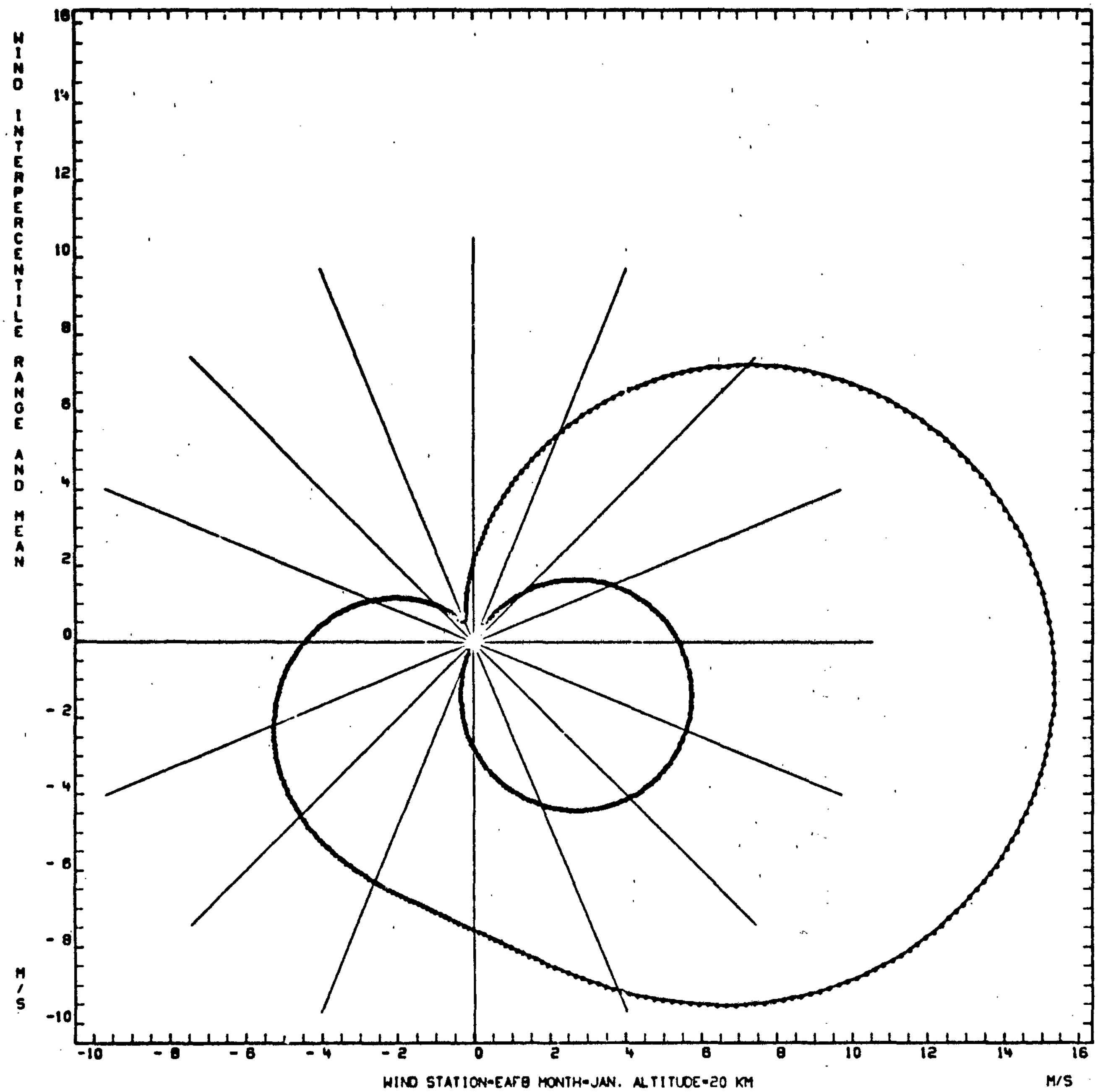
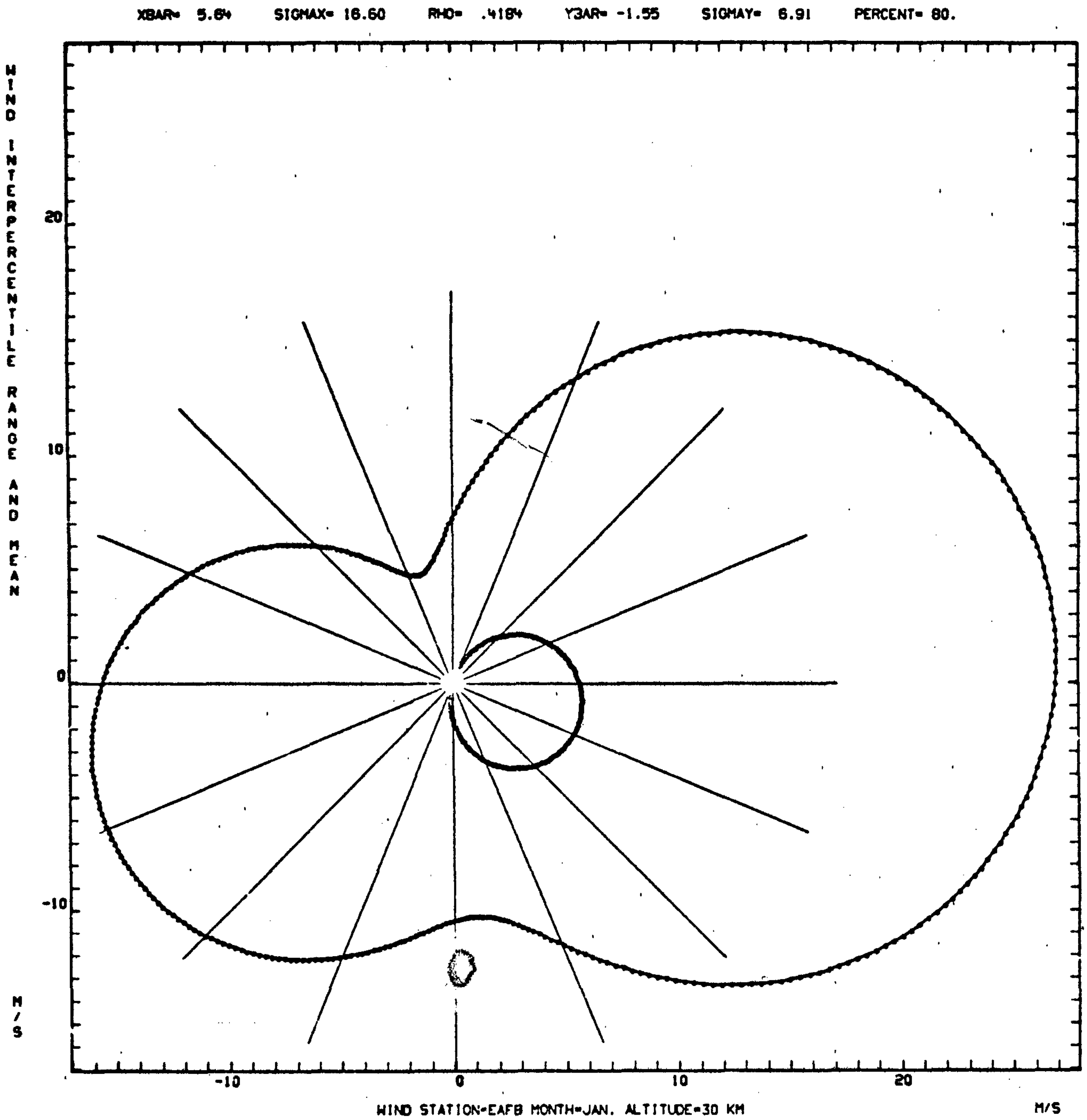


Figure A-23.



XBAR= 5.64 SIGMAX= 16.60 RHO= .4184 YBAR= -1.55 SIGMAY= 6.91 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
20
10
0
-10
-10
0
10
20
WIND STATION=EAFB MONTH=JAN. ALTITUDE=30 KM
M/S

Figure A-24.

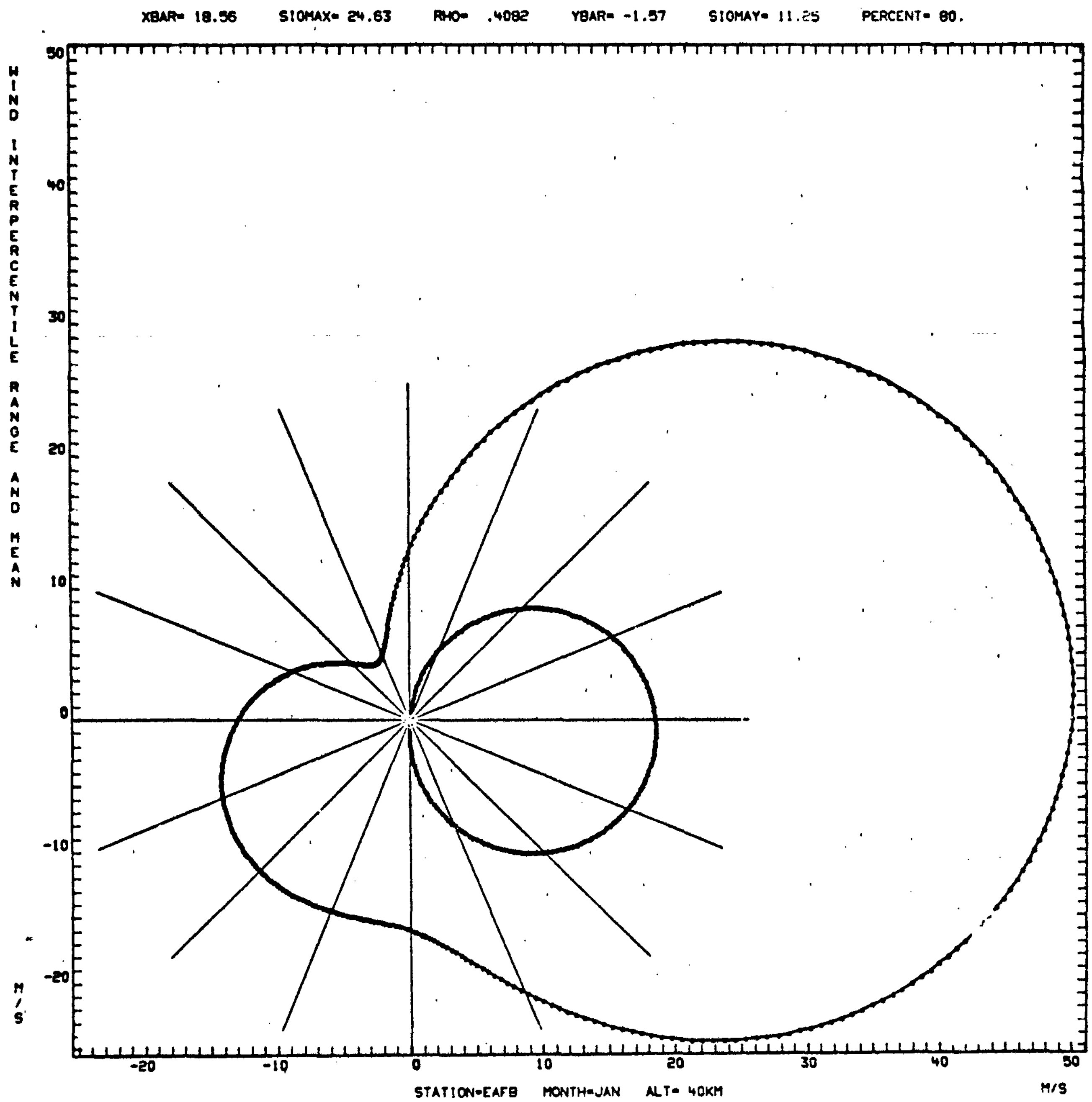
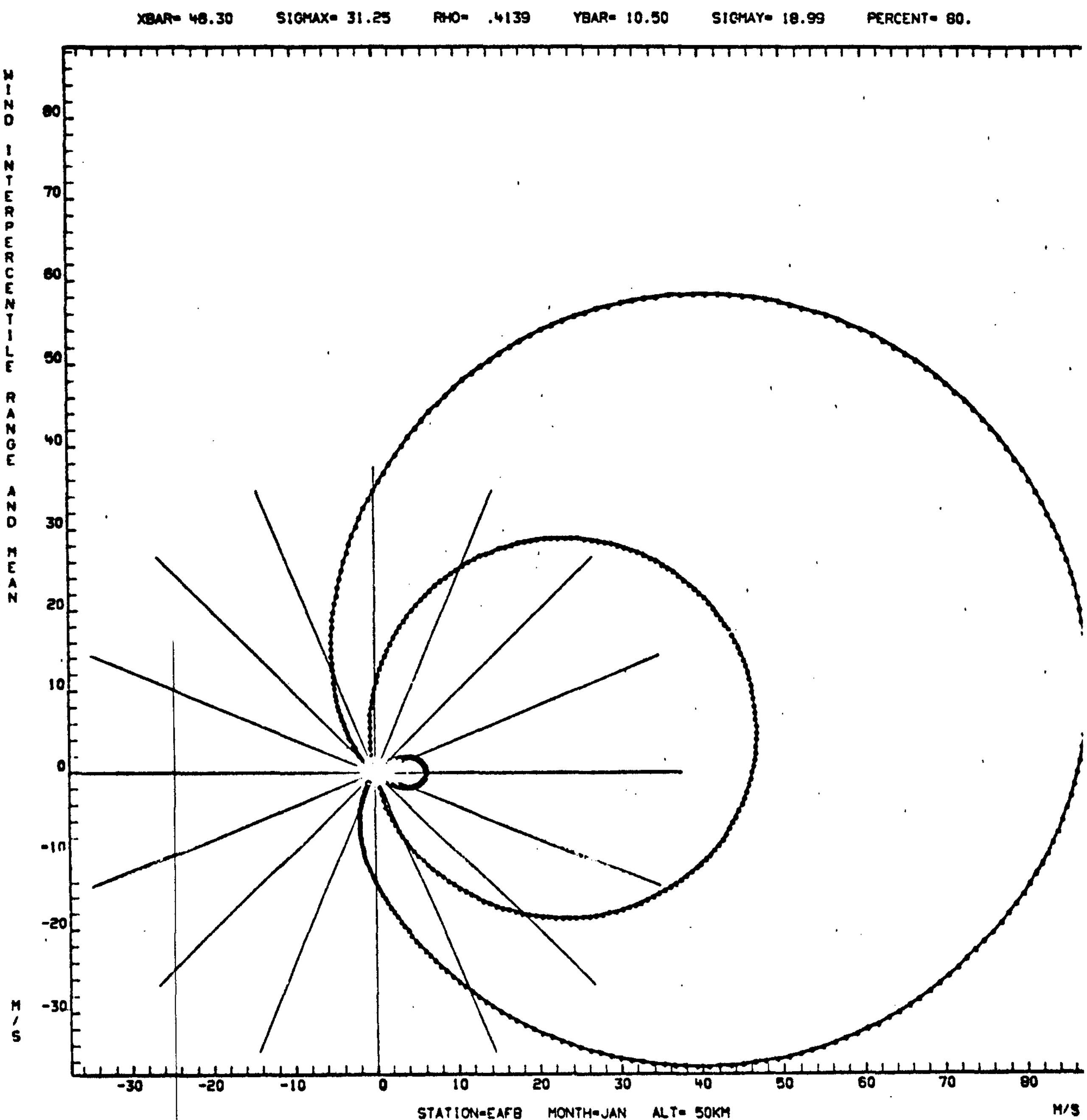

XBAR= 18.56 SIGMAX= 24.63 RHO= .4082 YBAR= -1.57 SIGMAY= 11.25 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
50
40
30
20
10
0
-10
-20
-20
-10
0
10
20
30
40
50
STATION=EAFB MONTH=JAN ALT= 40KM
M/S

Figure A-25.



XBAR= 48.30 SIGMAX= 31.25 RHO= .4139 YBAR= 10.50 SIGMAY= 18.99 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
80
70
60
50
40
30
20
10
0
-10
-20
-30
-30
-20
-10
0
10
20
30
40
50
60
70
80
STATION=EAFB MONTH=JAN ALT= 50KM
M/S

Figure A-26.

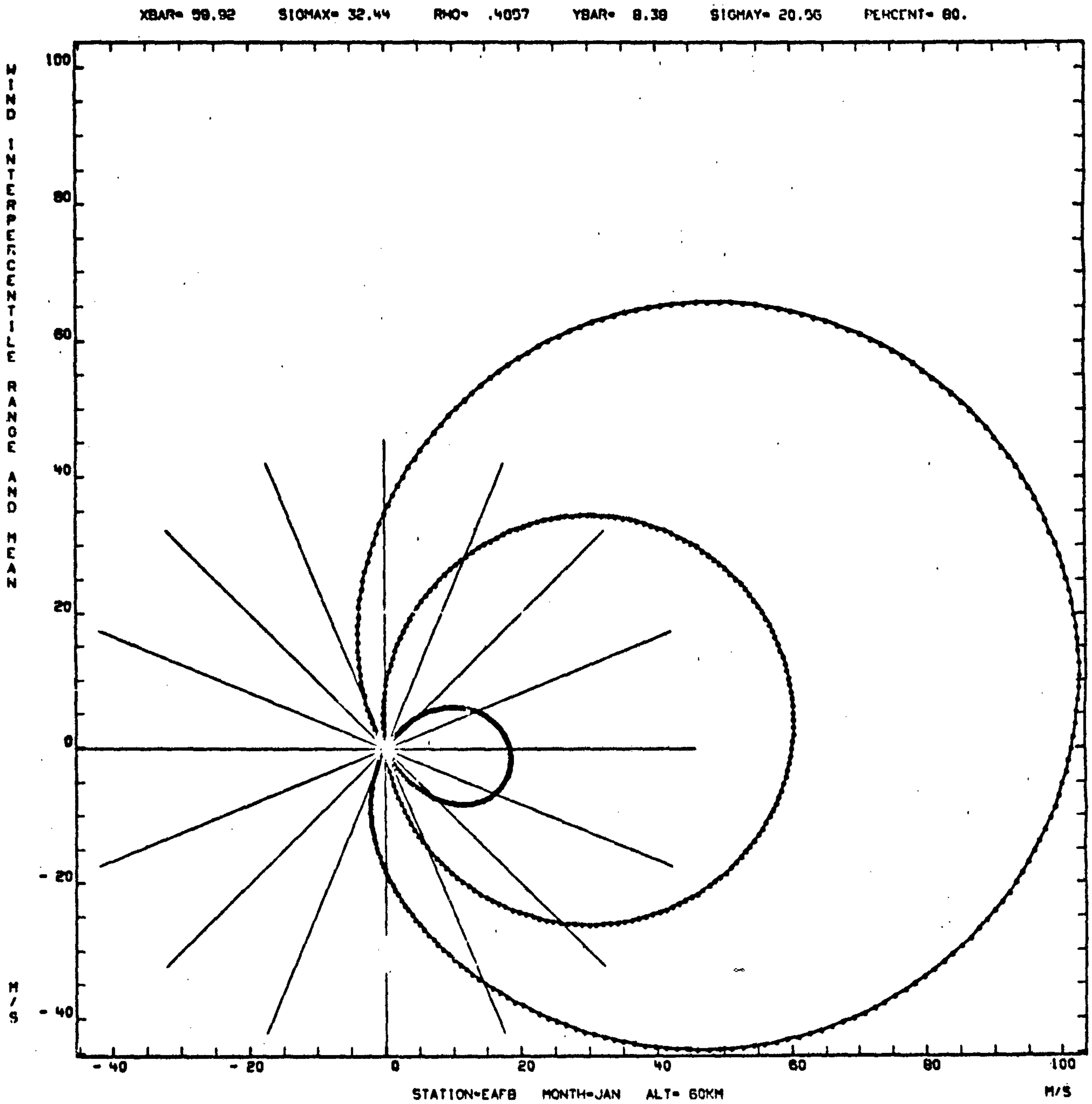
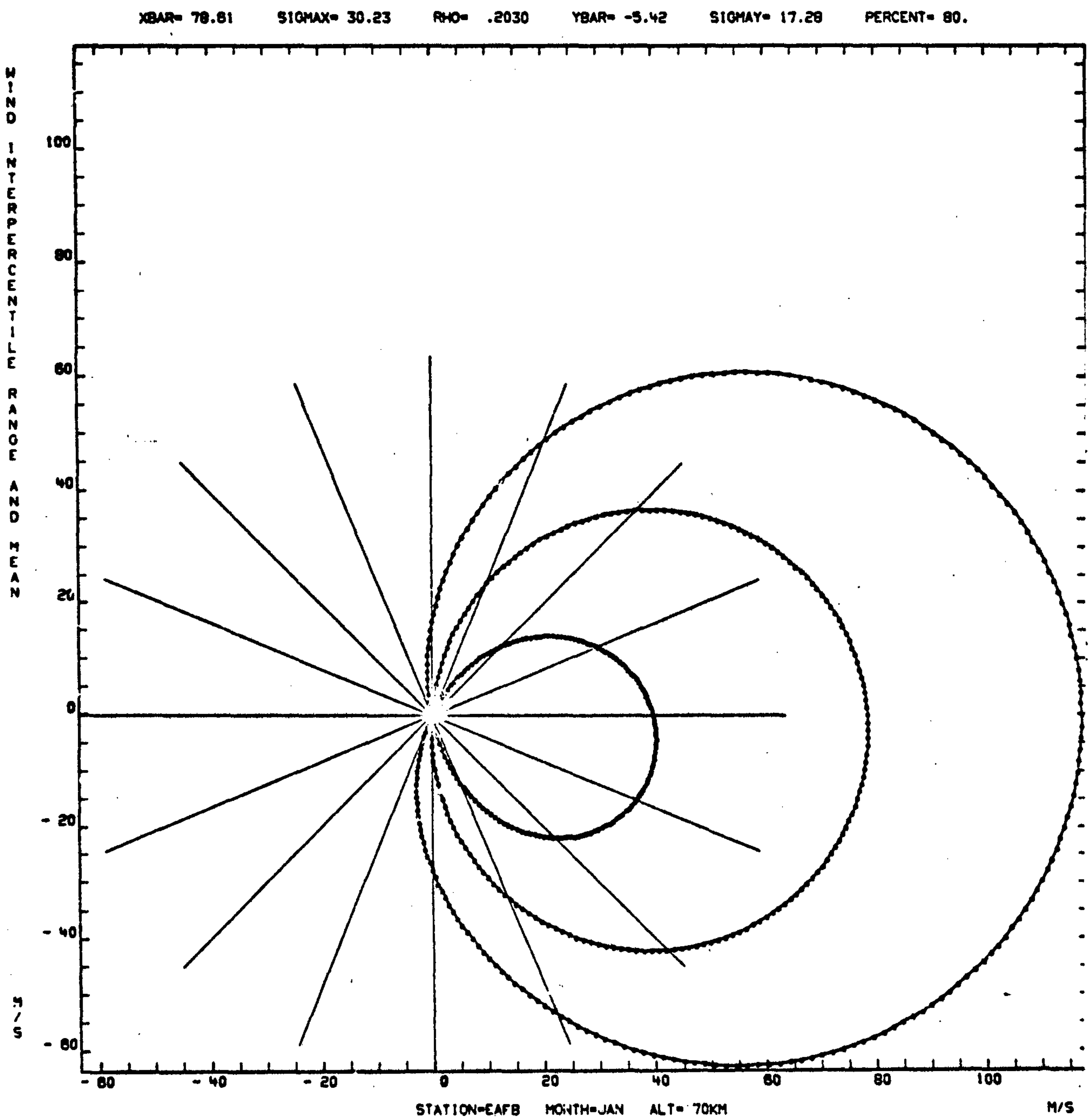
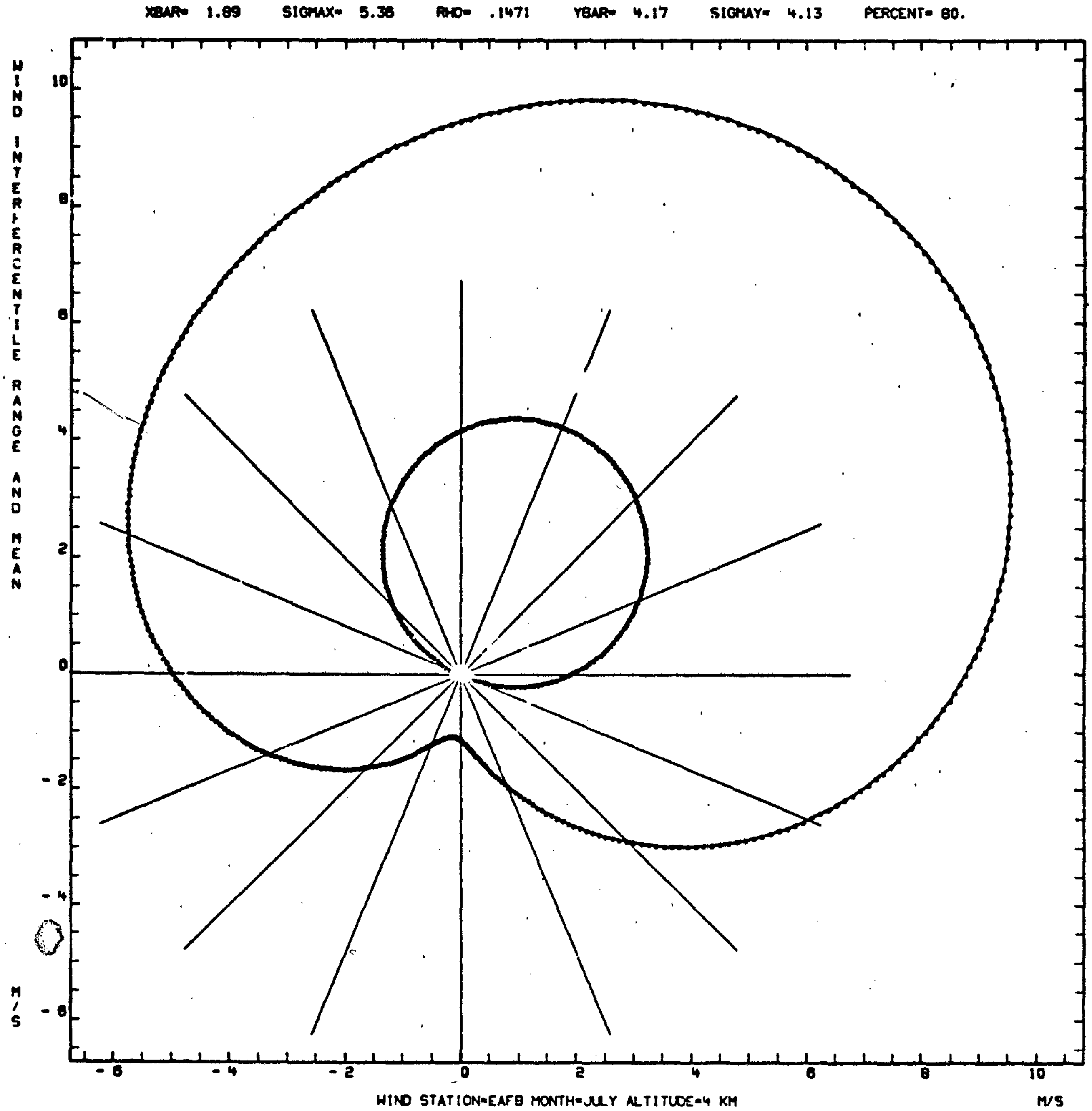

XBAR= 59.92 SIGMAX= 32.44 RHO= .4057 YBAR= 8.38 SIGMAY= 20.56 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
100
80
60
40
20
0
-20
-40
-40
-20
0
20
40
60
80
100
STATION=EAFB MONTH=JAN ALT= 60KM
M/S

Figure A-27.



XBAR= 78.81 SIGMAX= 30.23 RHO= .2030 YBAR= -5.42 SIGMAY= 17.28 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
100
80
60
40
20
0
-20
-40
-60
-60
-40
-20
0
20
40
60
80
100
STATION=EAFB MONTH=JAN ALT= 70KM
M/S

Figure A-28.



XBAR= 1.89 SIGMAX= 5.38 RHO= .1471 YBAR= 4.17 SIGMAY= 4.13 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
10
8
6
4
2
0
-2
-4
-6
-6
-4
-2
0
2
4
6
8
10
WIND STATION=EAFB MONTH=JULY ALTITUDE=4 KM
M/S

Figure A-29.

XBAR= 10.09 SIGMAX= 9.27 RHO= .0773 YBAR= 10.66 SIGMAY= 9.62 PERCENT= 80.

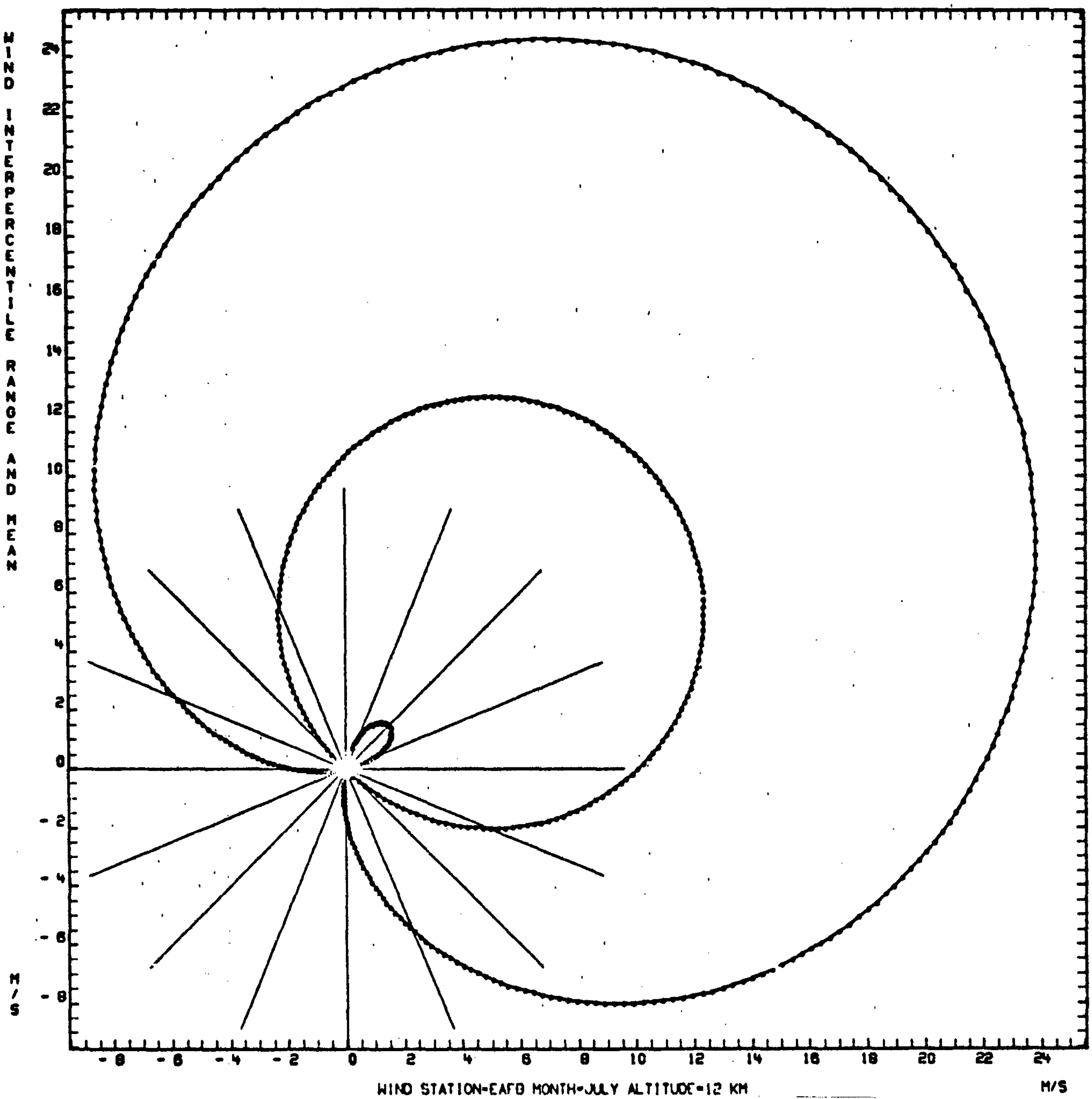


Figure A-30.

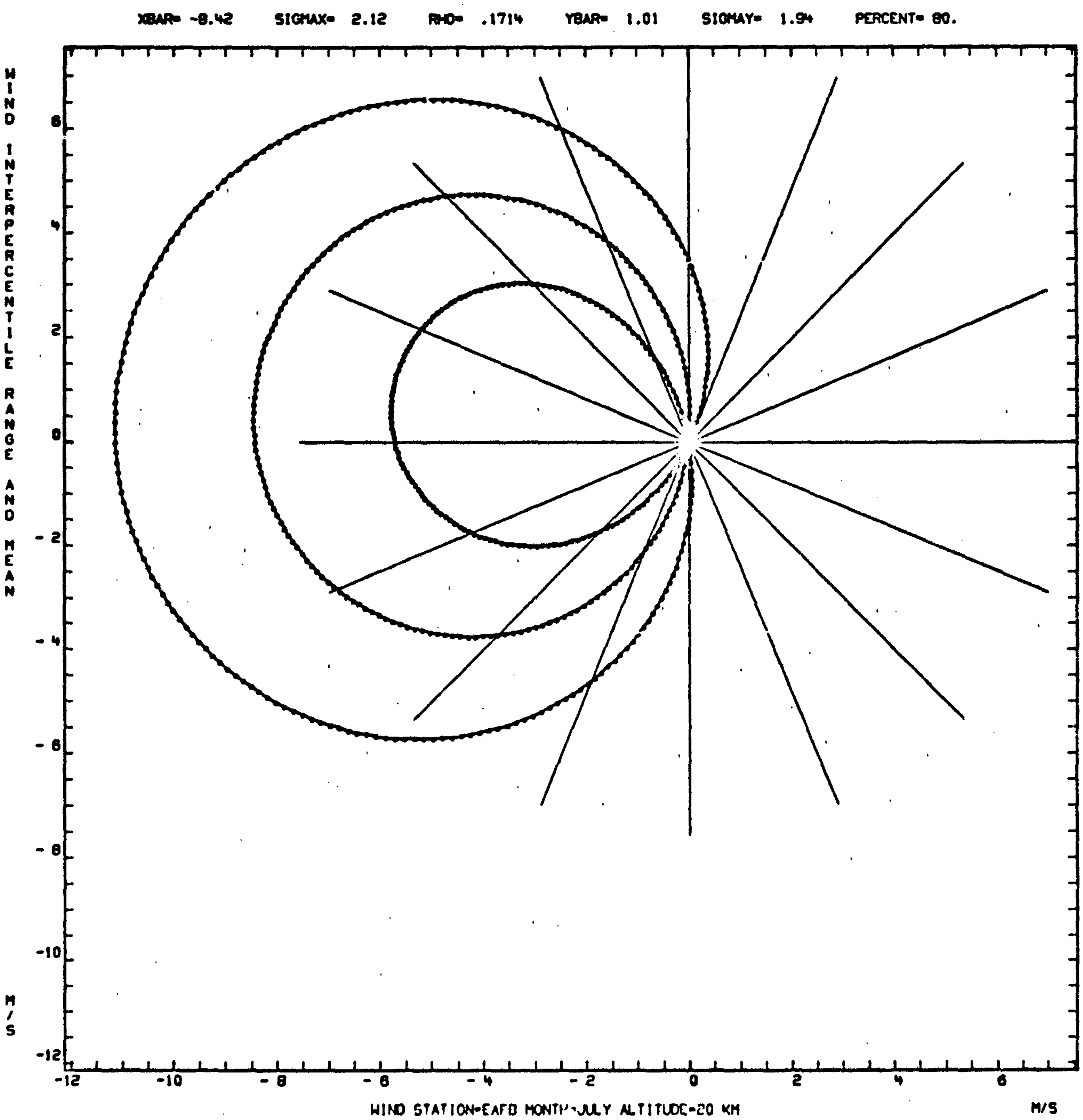

XBAR= -8.42 SIGMAX= 2.12 RHO= .1714 YBAR= 1.01 SIGMAY= 1.94 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
6
4
2
0
-2
-4
-6
-8
-10
-12
-12
-10
-8
-6
-4
-2
0
2
4
6
WIND STATION=EAFB MONTH=JULY ALTITUDE=20 KM
M/S

Figure A-31.

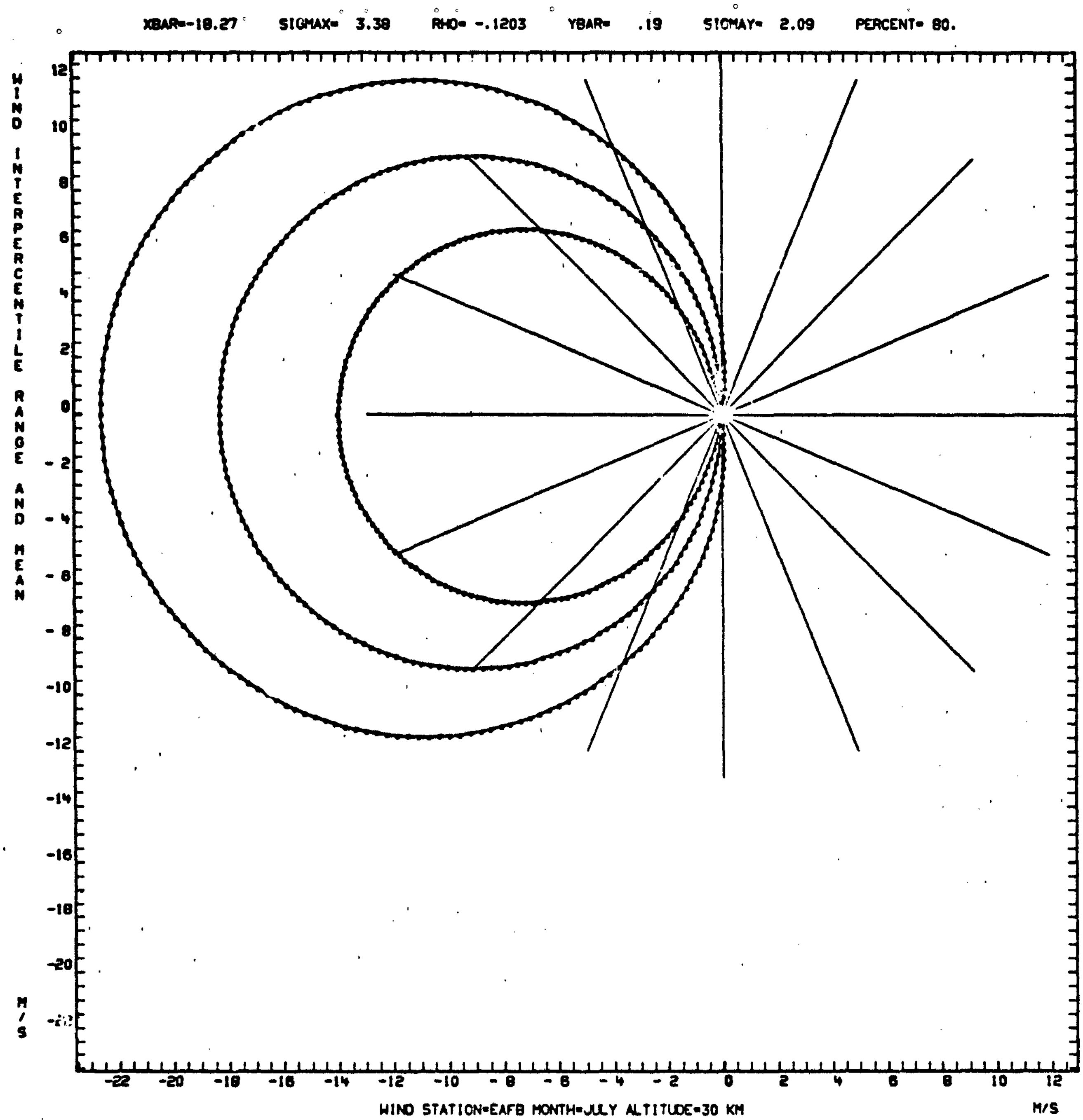

XBAR=-10.27 SIGMAX= 3.38 RHO= -.1203 YBAR= .19 SIGMAY= 2.09 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-20
-18
-16
-14
-12
-10
-8
-6
-4
-2
0
2
4
6
8
10
12
WIND STATION=EAFB MONTH=JULY ALTITUDE=30 KM
M/S

Figure A-32.

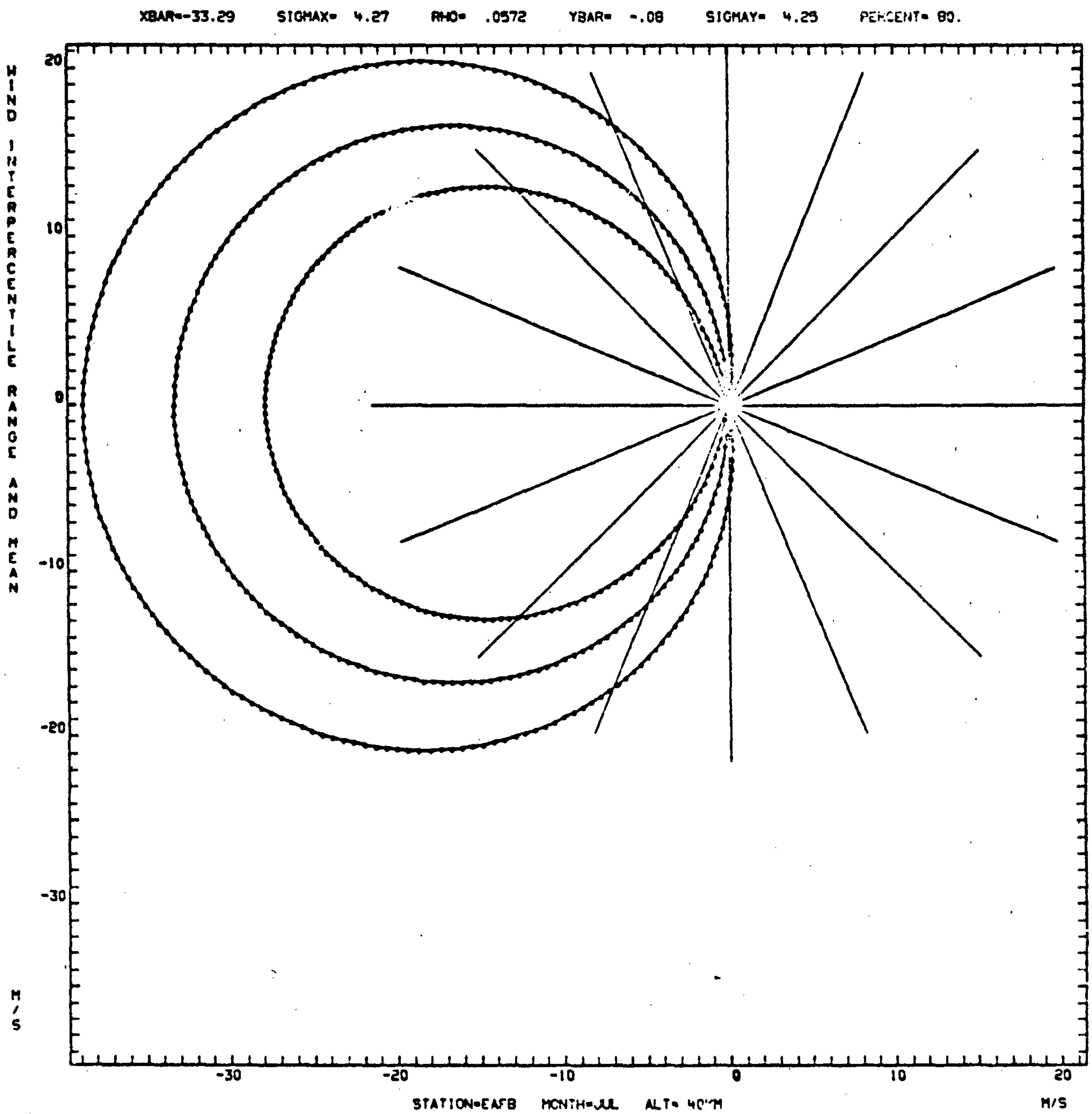
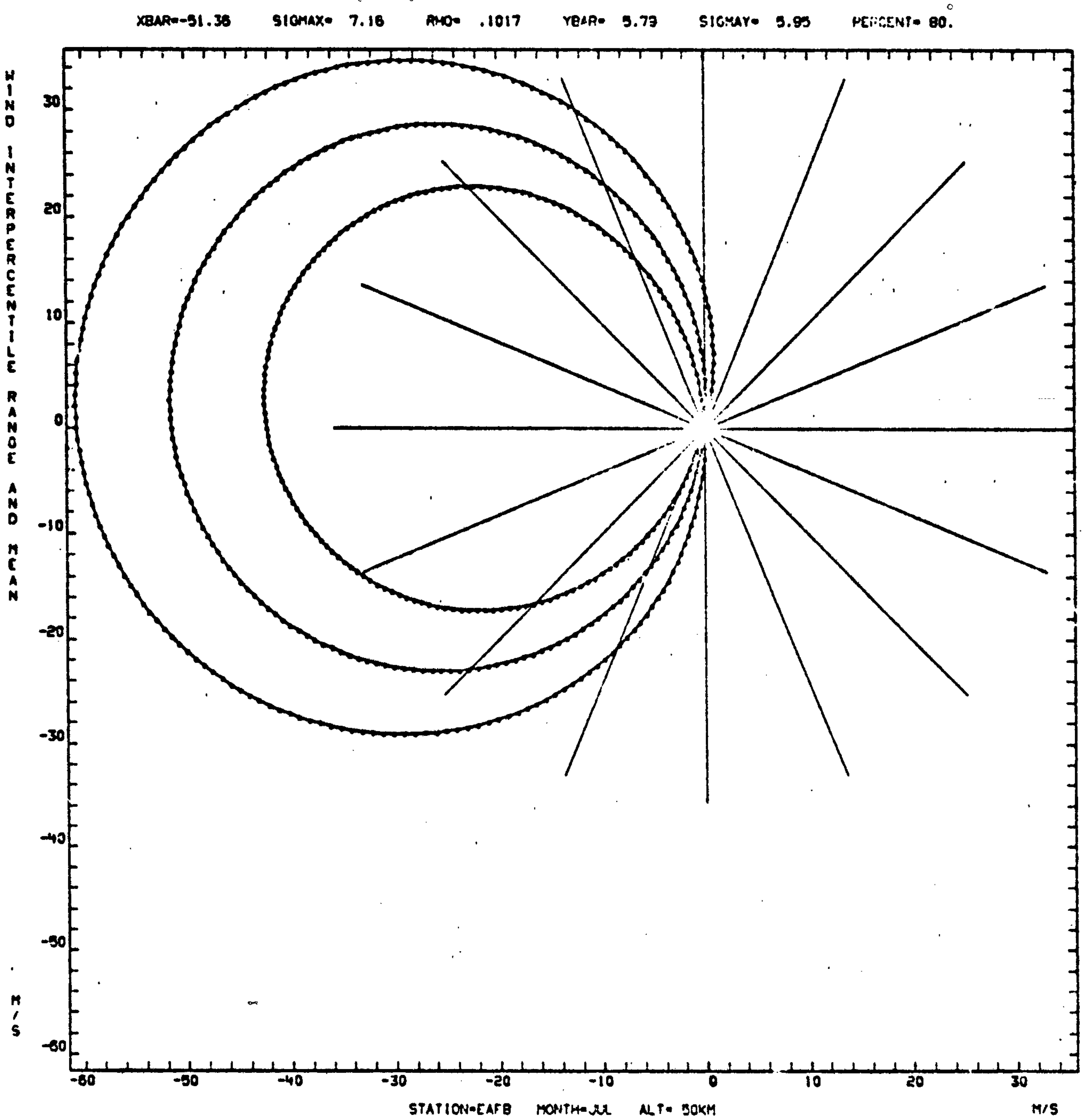
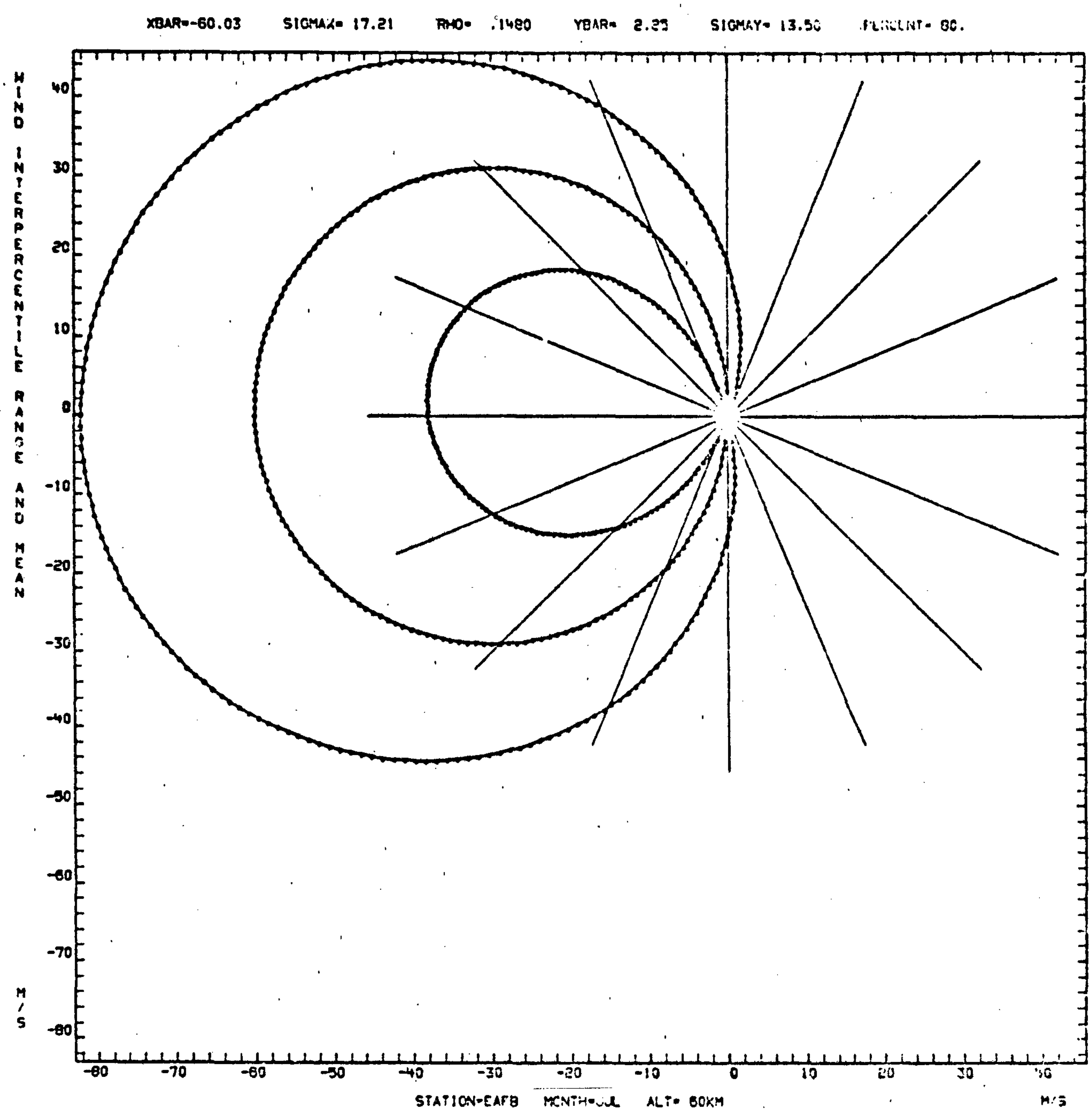

XBAR=-33.29 SIGMAX= 4.27 RHO= .0572 YBAR= -.08 SIGMAY= 4.25 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
20
10
0
-10
-20
-30
-30
-20
-10
0
10
20
STATION=EAFB MONTH=JUL ALT= 40''M
M/S

Figure A-33.



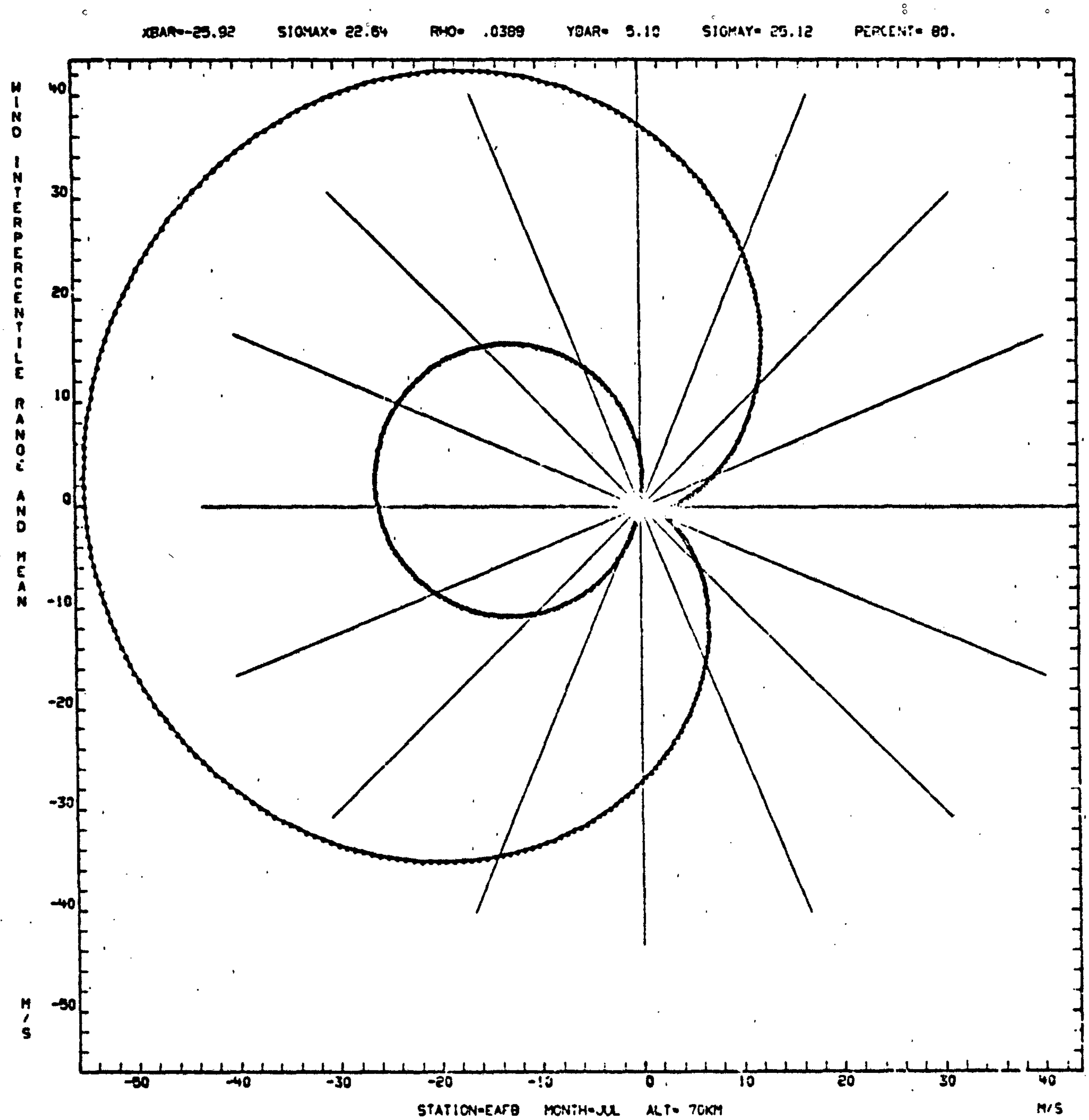
XBAR=-51.38 SIGMAX= 7.18 RHO= .1017 YBAR= 5.79 SIGMAY= 5.95 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
30
20
10
0
-10
-20
-30
-40
-50
-60
-60 -50 -40 -30 -20 -10 0 10 20 30
STATION=EAFB MONTH=JUL ALT= 50KM
M/S

Figure A-34.



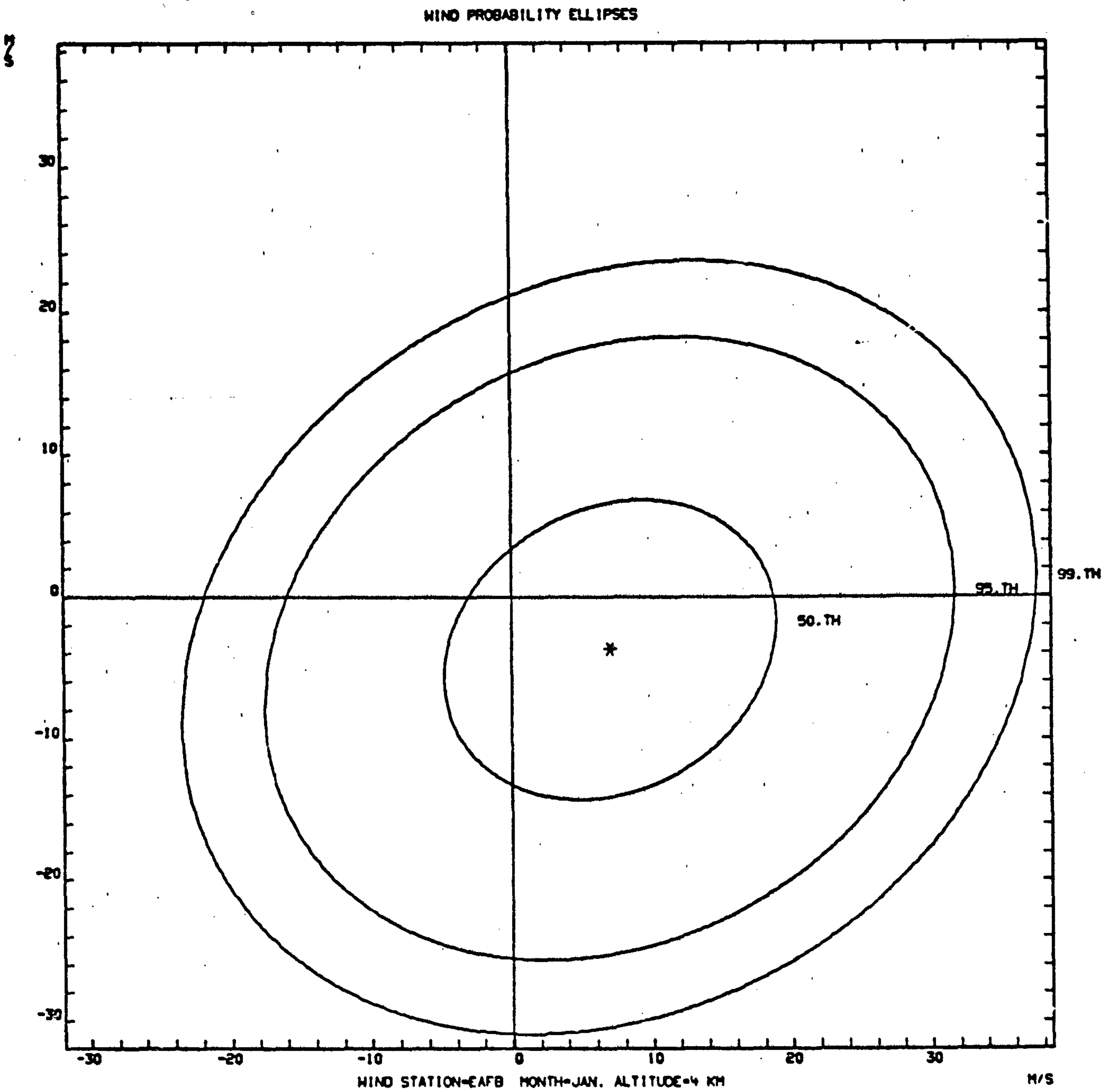
XBAR=-60.03 SIGMAX= 17.21 RHO= .1480 YBAR= 2.23 SIGMAY= 13.50 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
40
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40
STATION=EAFB MONTH=JUL ALT= 60KM
M/S

Figure A-35.



XBAR=-25.92 SIGMAX= 22.64 RHO= .0389 YBAR= 5.10 SIGMAY= 25.12 PERCENT= 80.
WIND INTERPERCENTILE RANGE AND MEAN
M/S
40
30
20
10
0
-10
-20
-30
-40
-50
-50
-40
-30
-20
-10
0
10
20
30
40
STATION=EAFB MONTH=JUL ALT= 70KM
M/S

Figure A-36.



WIND PROBABILITY ELLIPSES
M/S
30
20
10
0
-10
-20
-30
99.TH
95.TH
50.TH
-30
-20
-10
0
10
20
30
WIND STATION=EAFB MONTH=JAN. ALTITUDE=4 KM
M/S

Figure A-37.

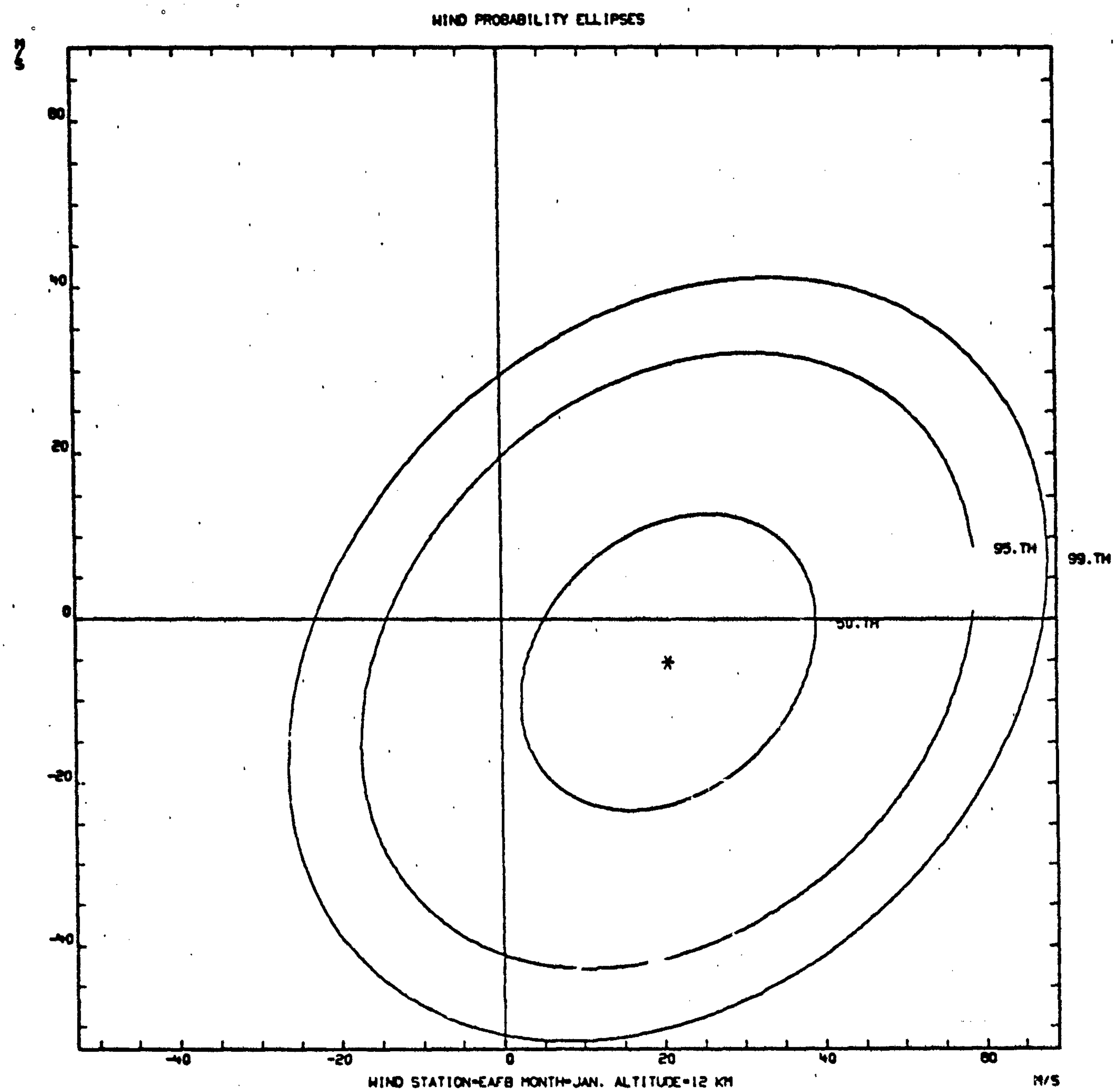

WIND PROBABILITY ELLIPSES
M/S
60
40
20
0
-20
-40
-40
-20
0
20
40
60
95.TH
99.TH
50.TH
WIND STATION=EAFB MONTH=JAN. ALTITUDE=12 KM
M/S

Figure A-38.

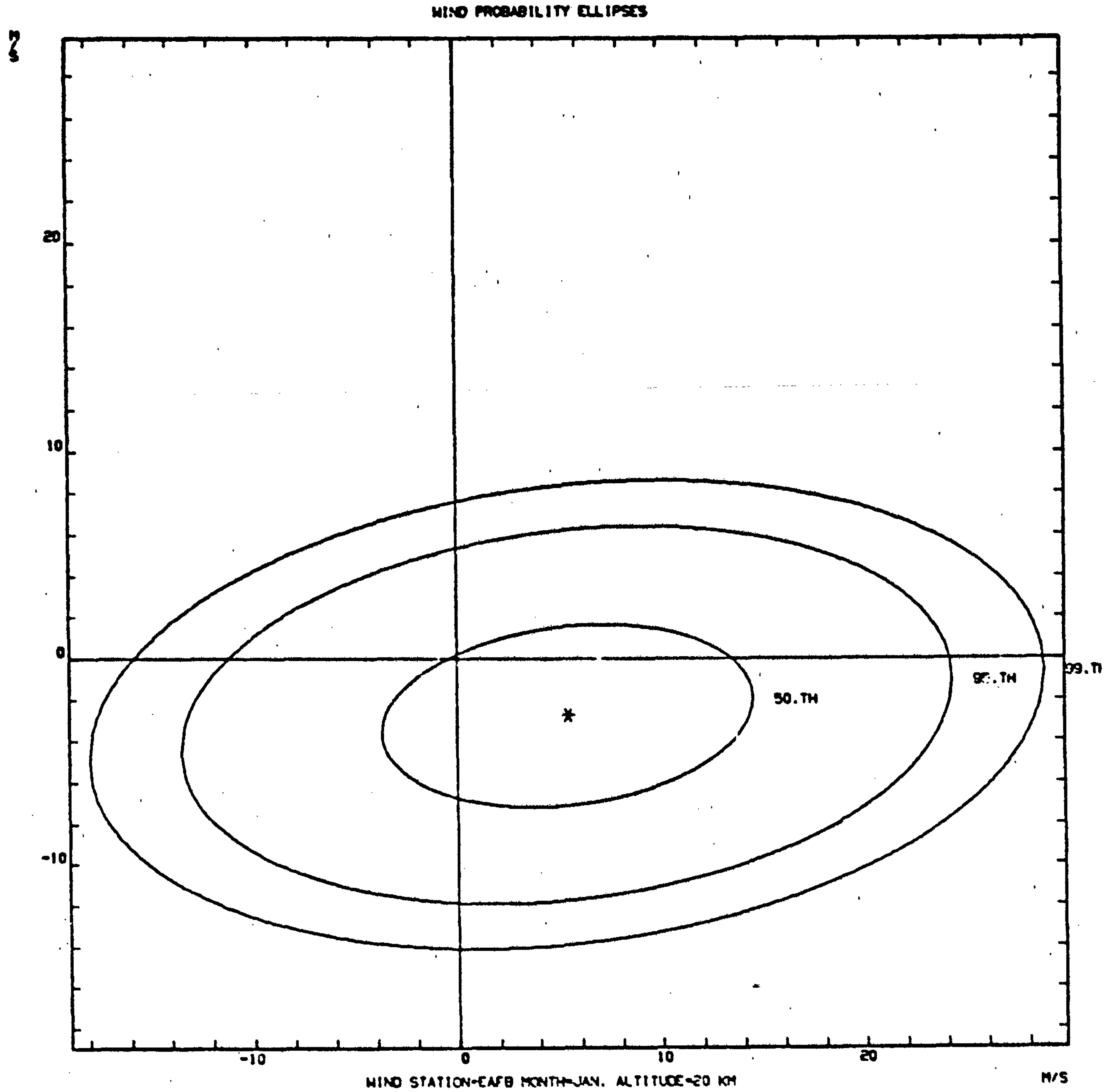

WIND PROBABILITY ELLIPSES
M/S
20
10
0
-10
-10
0
10
20
50.TH
99.T
WIND STATION-EAFB MONTH-JAN. ALTITUDE-20 KM
M/S

Figure A-39.

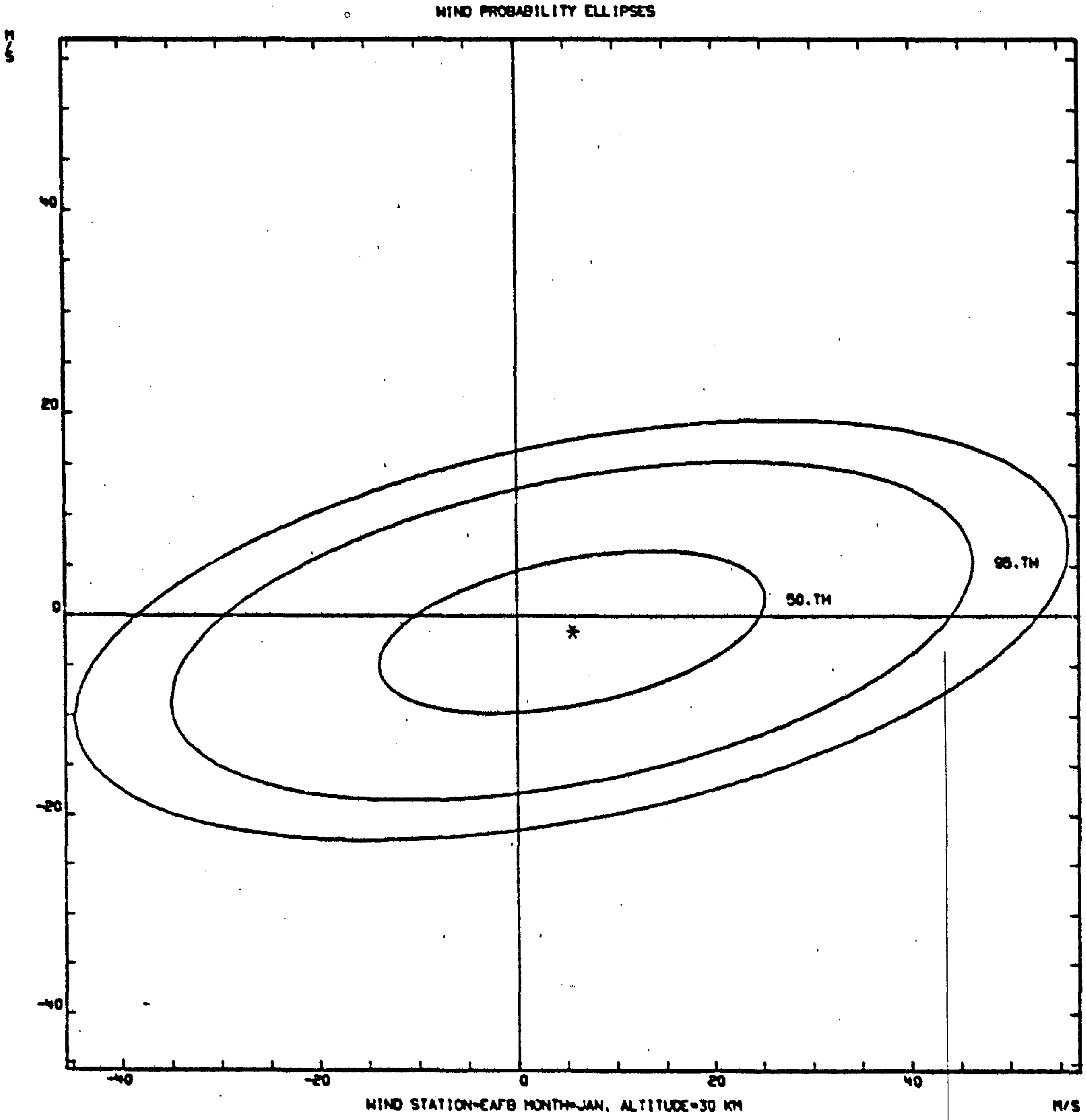

WIND PROBABILITY ELLIPSES
M/S
40
20
0
-20
-40
-40
-20
0
20
40
95.TH
50.TH
WIND STATION=EAFB MONTH=JAN. ALTITUDE=30 KM
M/S

Figure A-40.

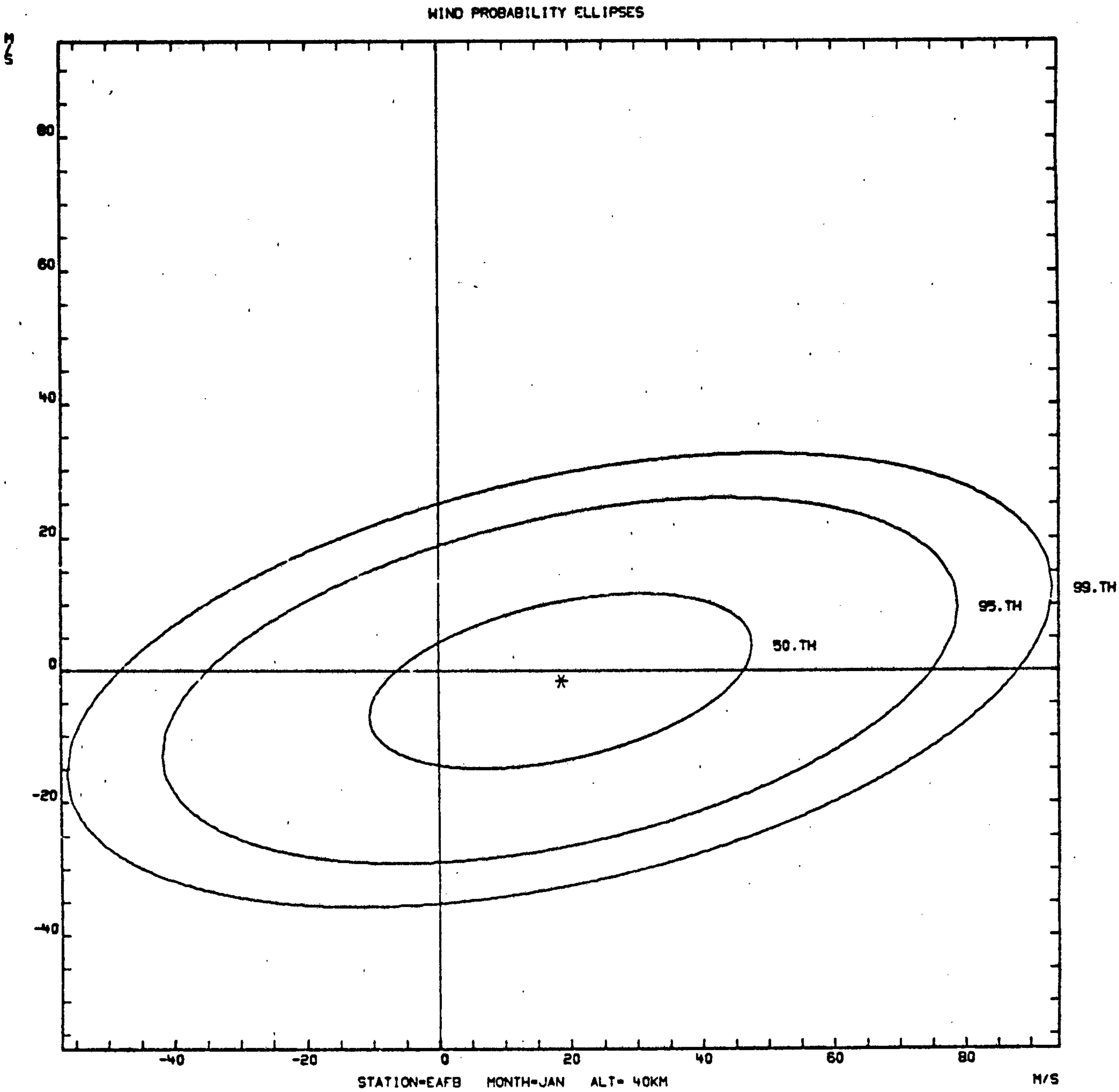

WIND PROBABILITY ELLIPSES
M/S
80
60
40
20
0
-20
-40
99.TH
95.TH
50.TH
-40
-20
0
20
40
60
80
M/S
STATION=EAFB MONTH=JAN ALT= 40KM

Figure A-41.

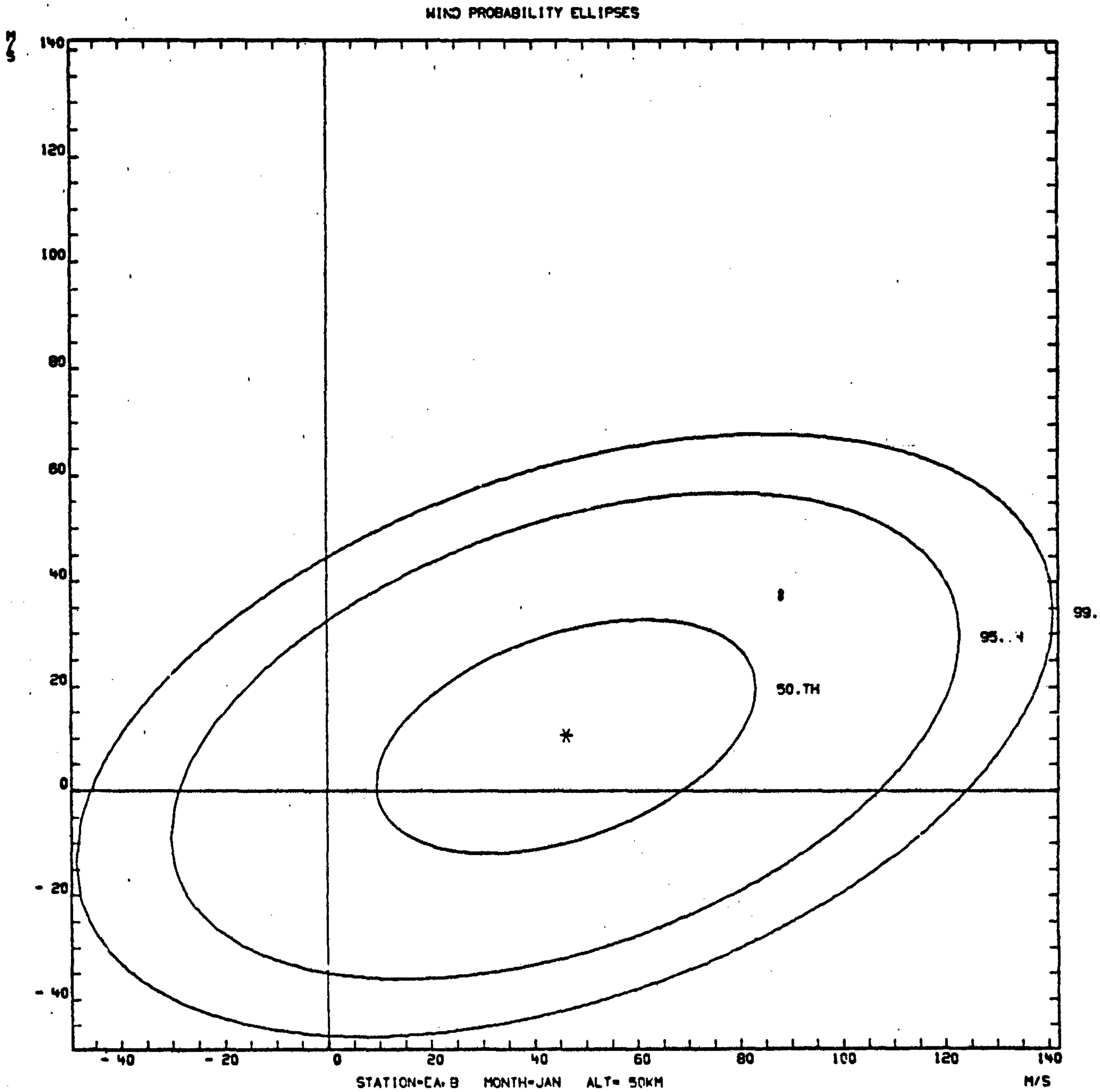

WIND PROBABILITY ELLIPSES
M/S
140
120
100
80
60
40
20
0
- 20
- 40
- 40
- 20
0
20
40
60
80
100
120
140
M/S
99.
95.4
50.TH
STATION=CA.B MONTH=JAN ALT= 50KM

Figure A-42.

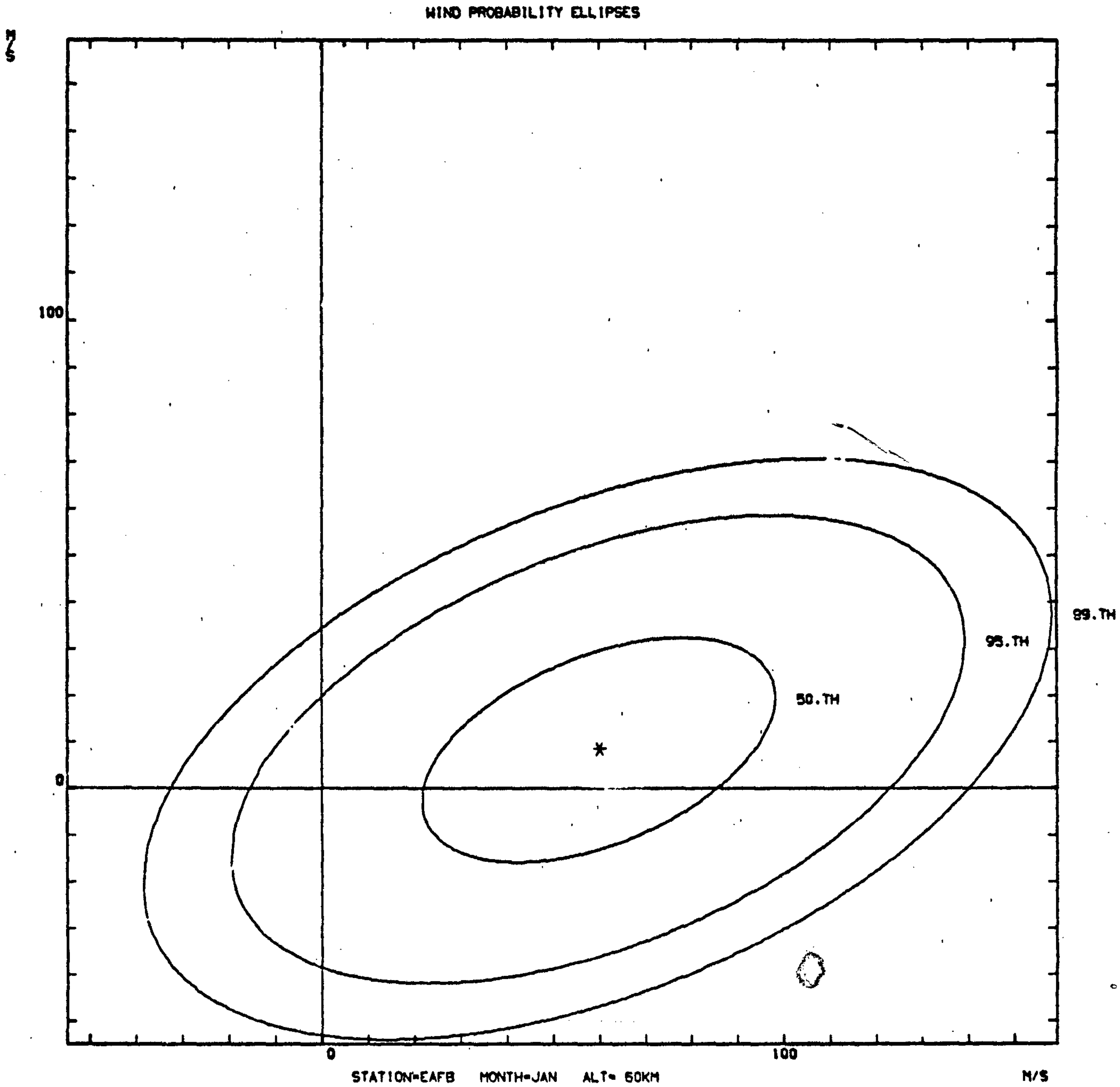

WIND PROBABILITY ELLIPSES
M/S
100
0
99.TH
95.TH
50.TH
0
100
STATION=EAFB MONTH=JAN ALT= 60KM
M/S

Figure A-43.

WIND PROBABILITY ELLIPSES

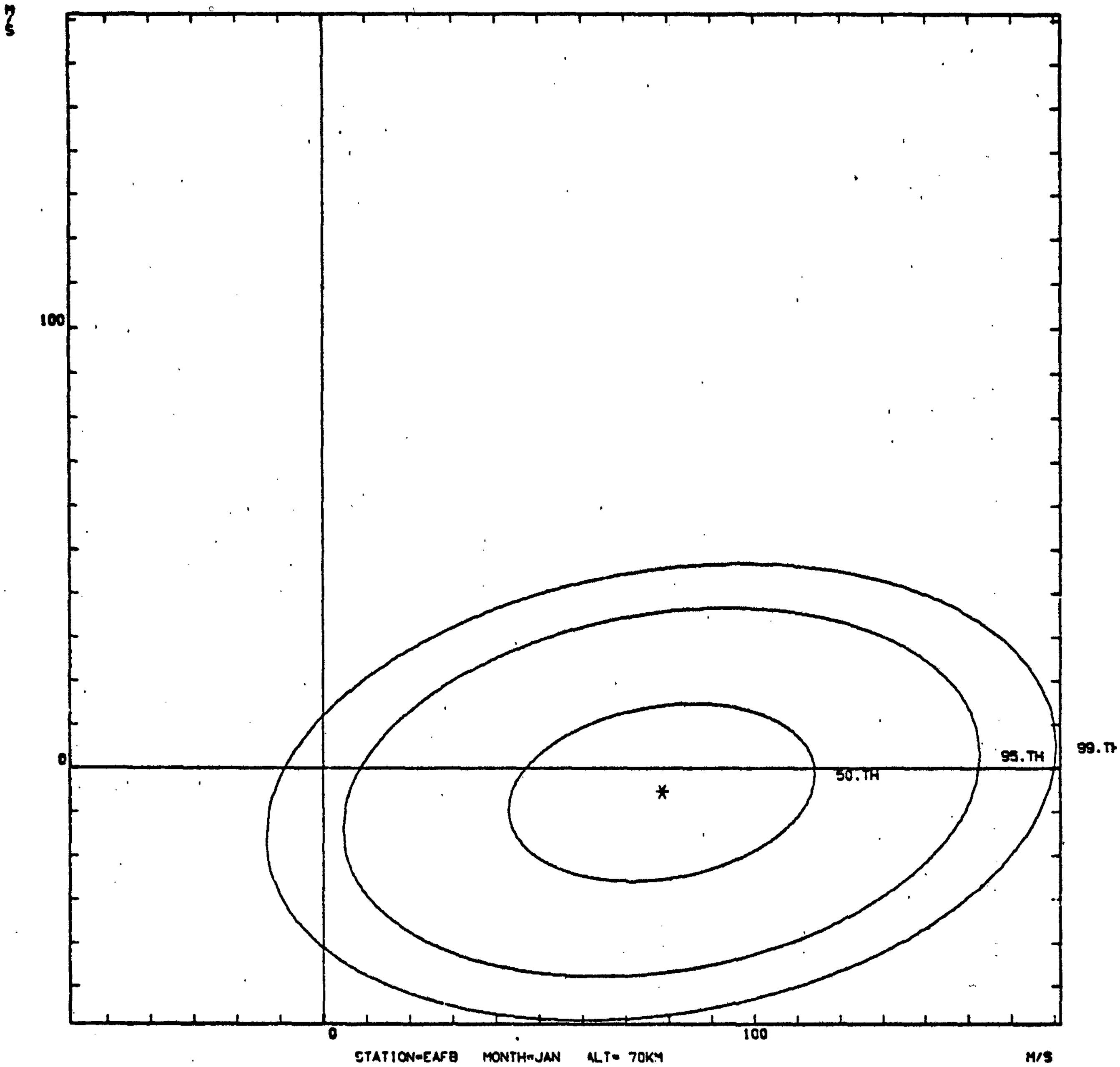
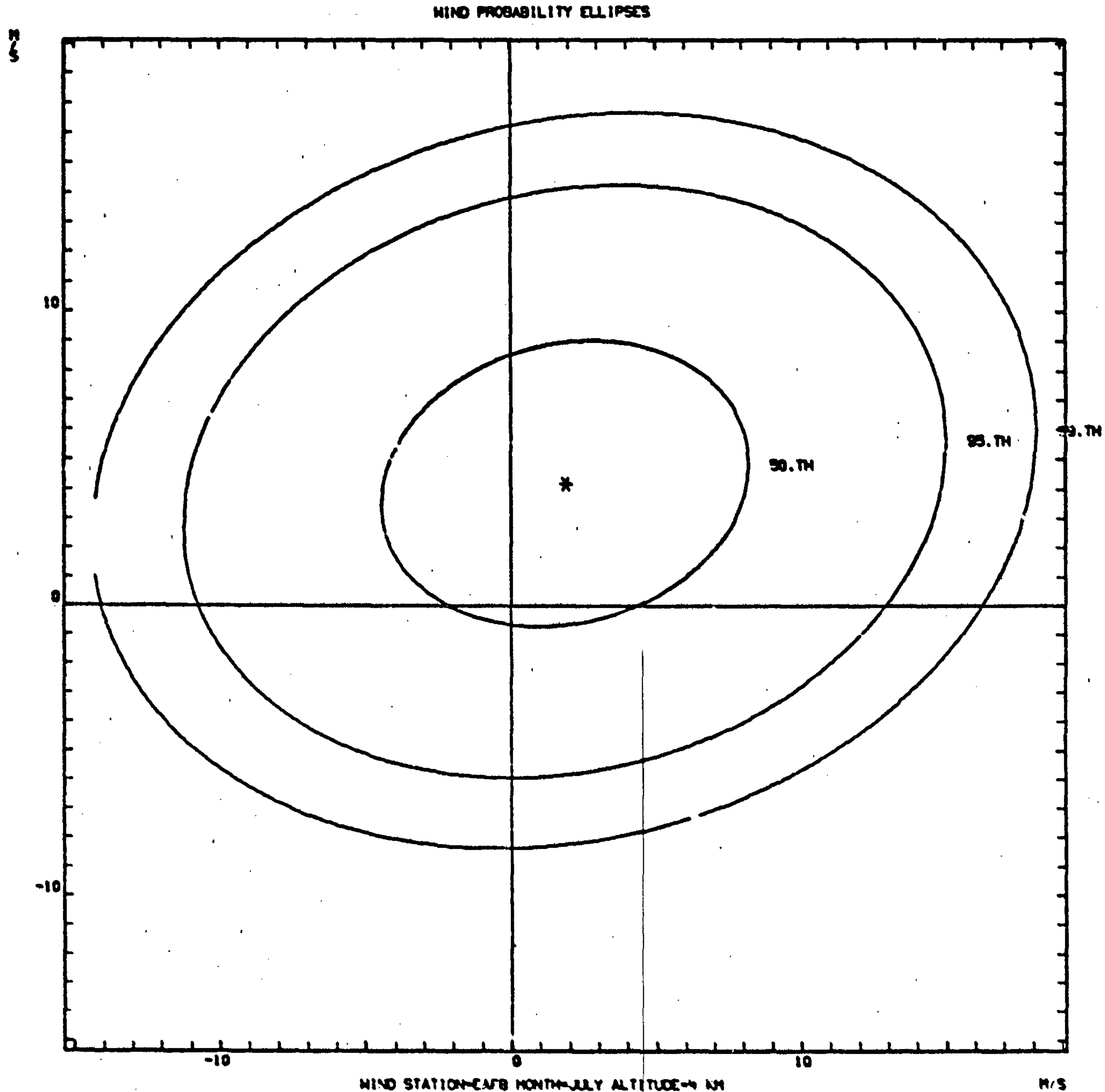


Figure A-44.



WIND PROBABILITY ELLIPSES
M/S
10
0
-10
-10
0
10
50.TH
95.TH
99.TH
WIND STATION=EAFB MONTH=JULY ALTITUDE=4 KM
M/S

Figure A-45.

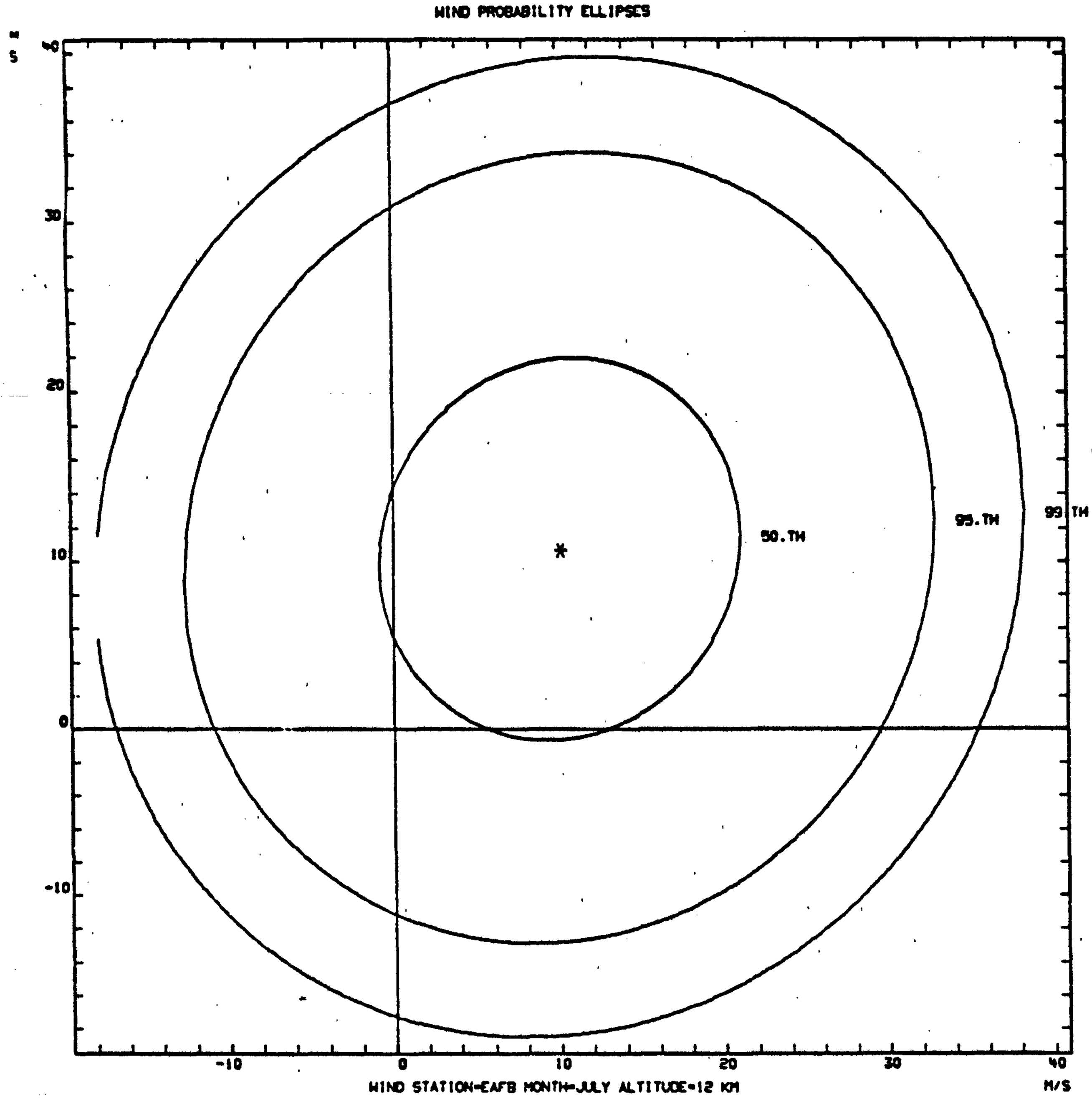
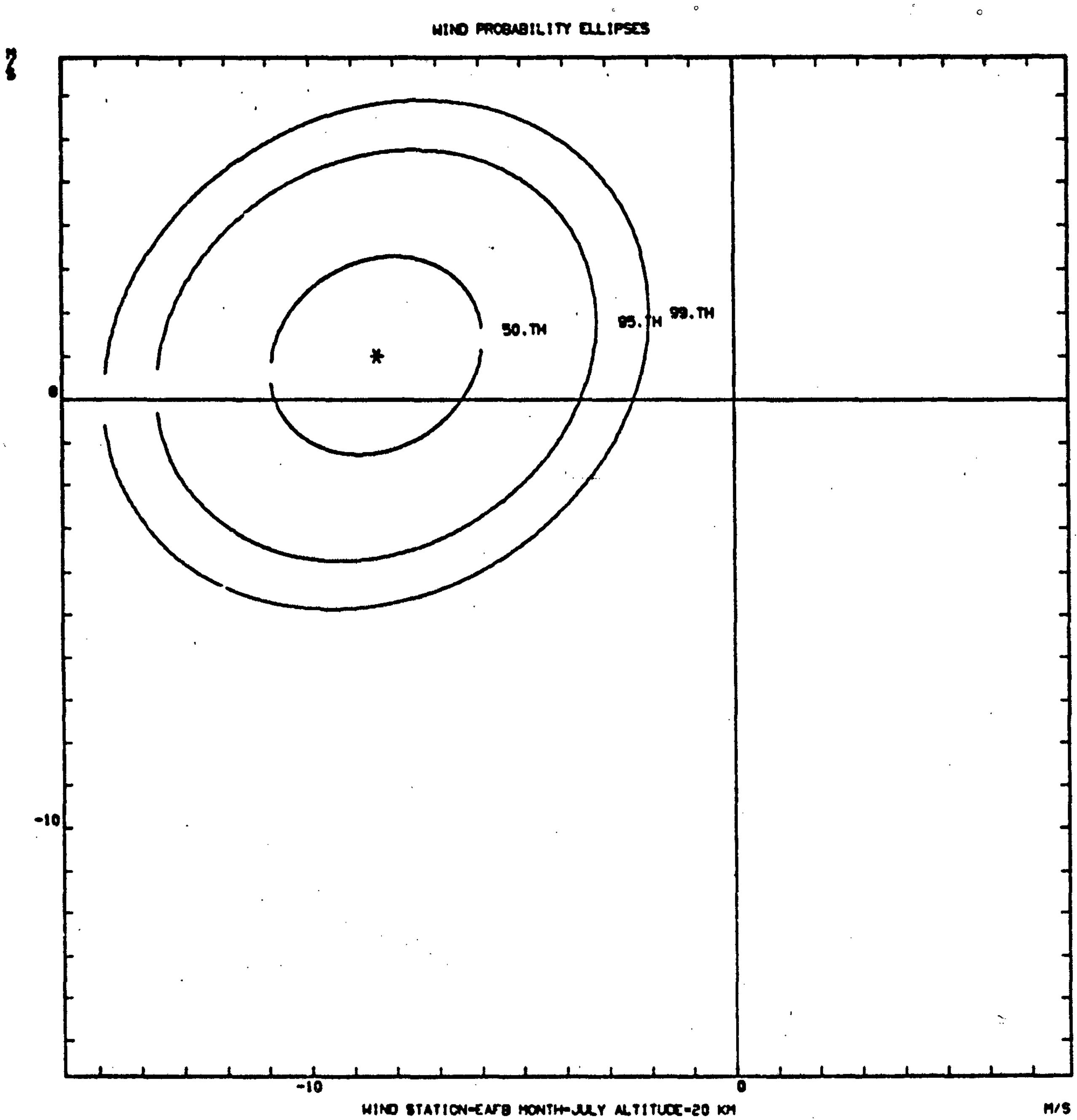
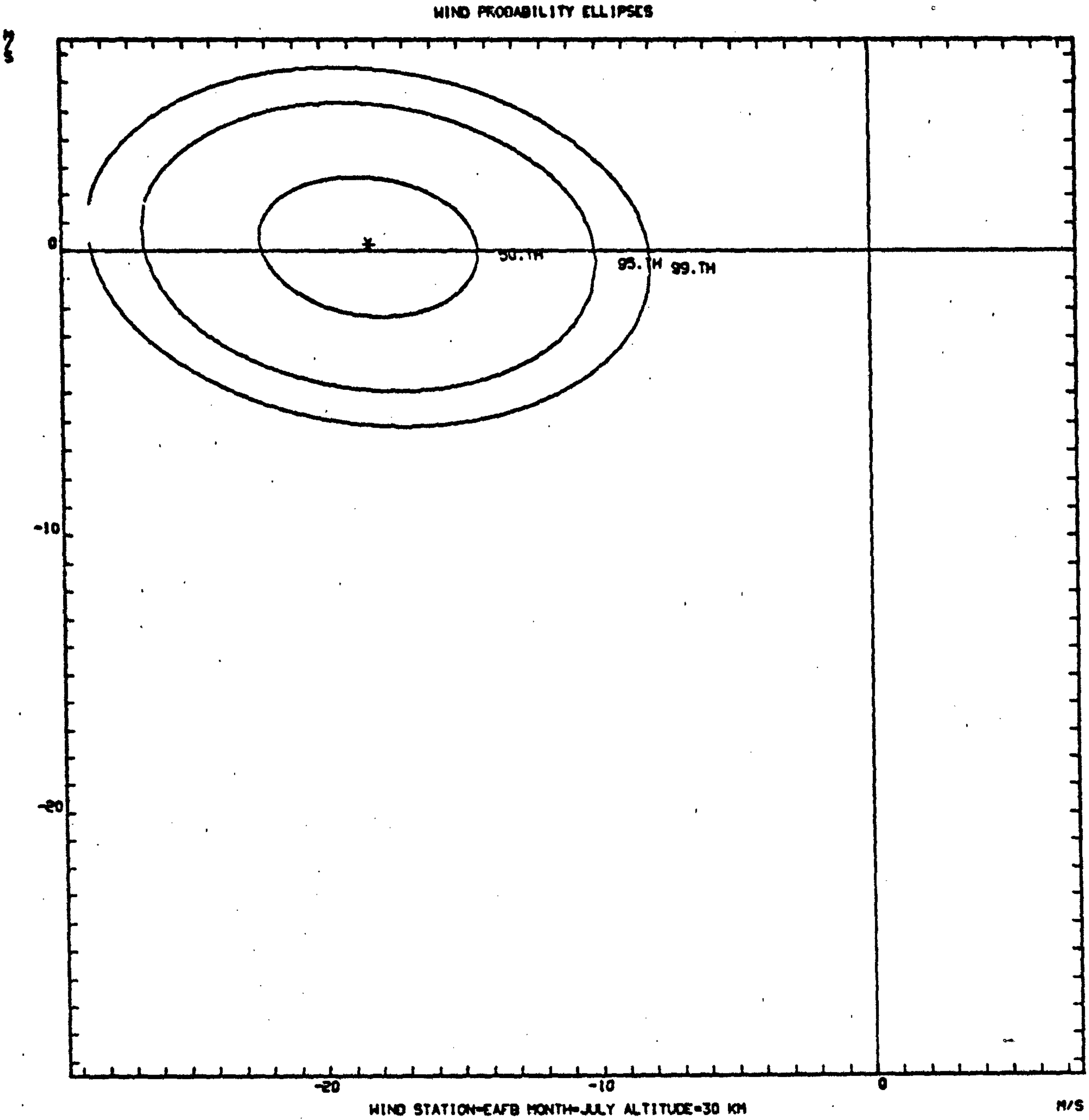

WIND PROBABILITY ELLIPSES
M
S
40
30
20
10
0
-10
-10
0
10
20
30
40
50.TH
95.TH
99.TH
WIND STATION=EAFB MONTH=JULY ALTITUDE=12 KM
M/S

Figure A-46.



WIND PROBABILITY ELLIPSES
M/S
50.TH
95.TH
99.TH
0
-10
-10
0
WIND STATION=EAFB MONTH=JULY ALTITUDE=20 KM
M/S

Figure A-47.



WIND PROBABILITY ELLIPSES
M/S
0
-10
-20
50.TH
95.TH
99.TH
-20
-10
0
WIND STATION=EAFB MONTH=JULY ALTITUDE=30 KM
M/S

Figure A-48.

WIND PROBABILITY ELLIPSES

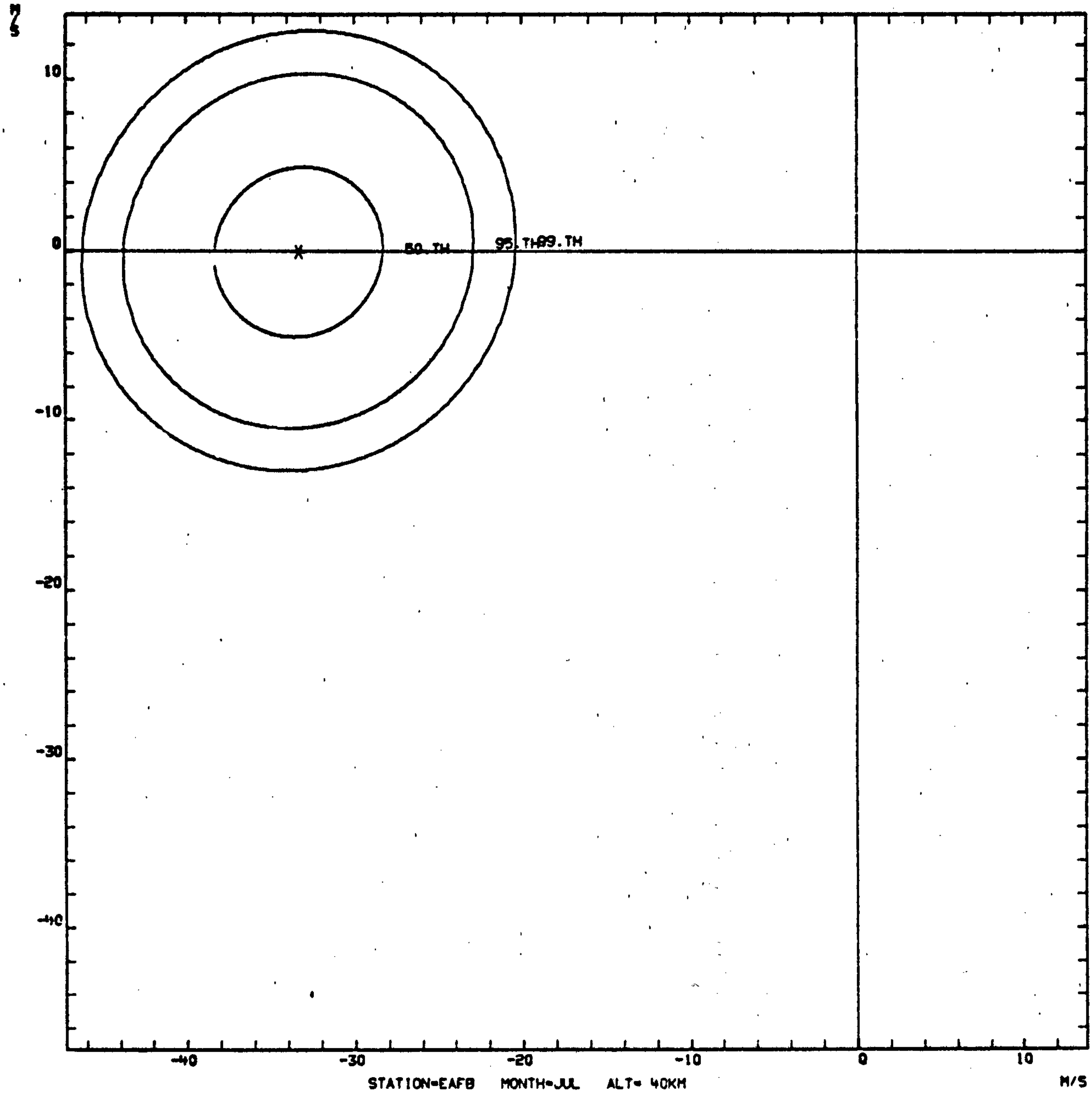


Figure A-49.

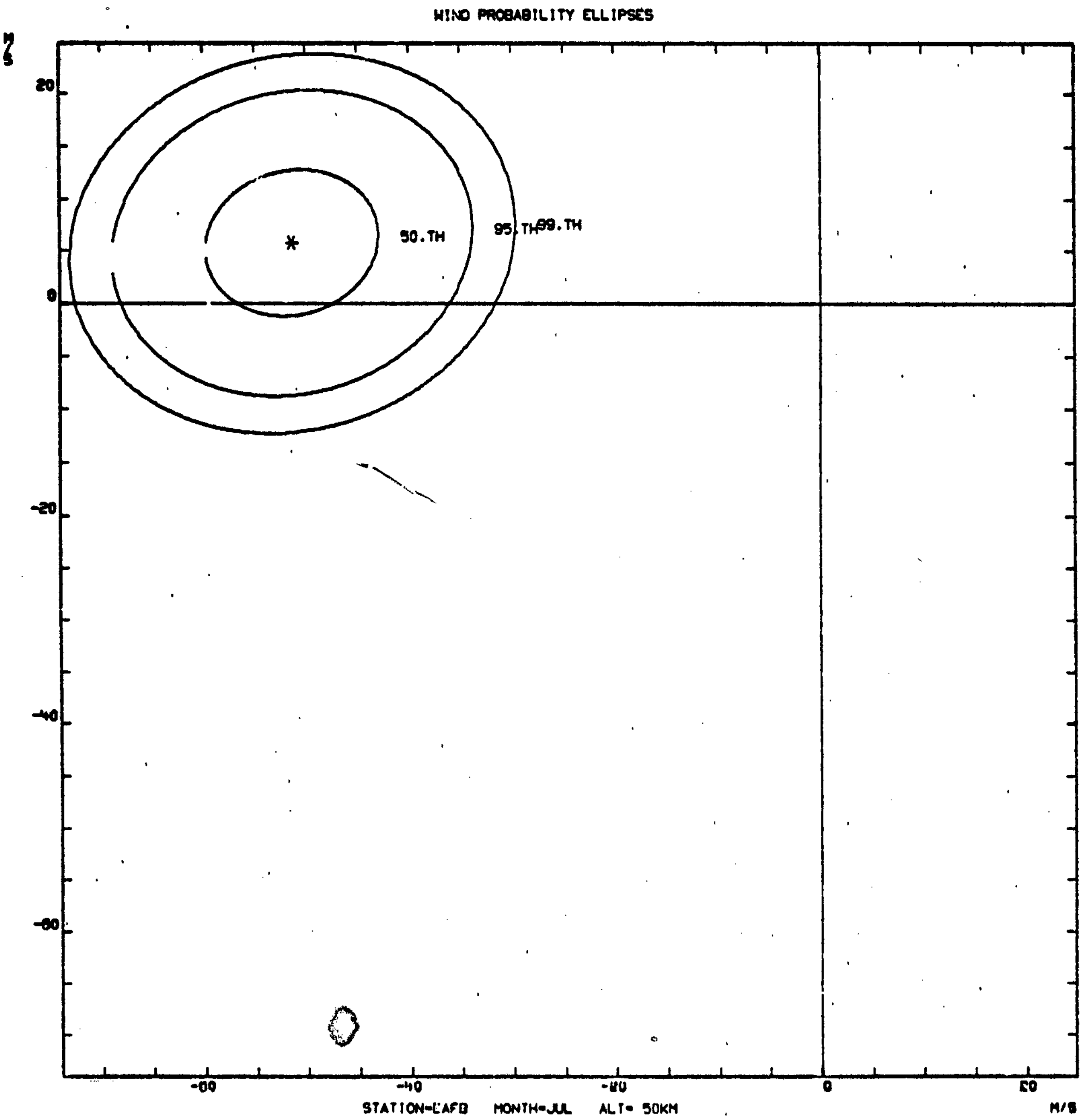
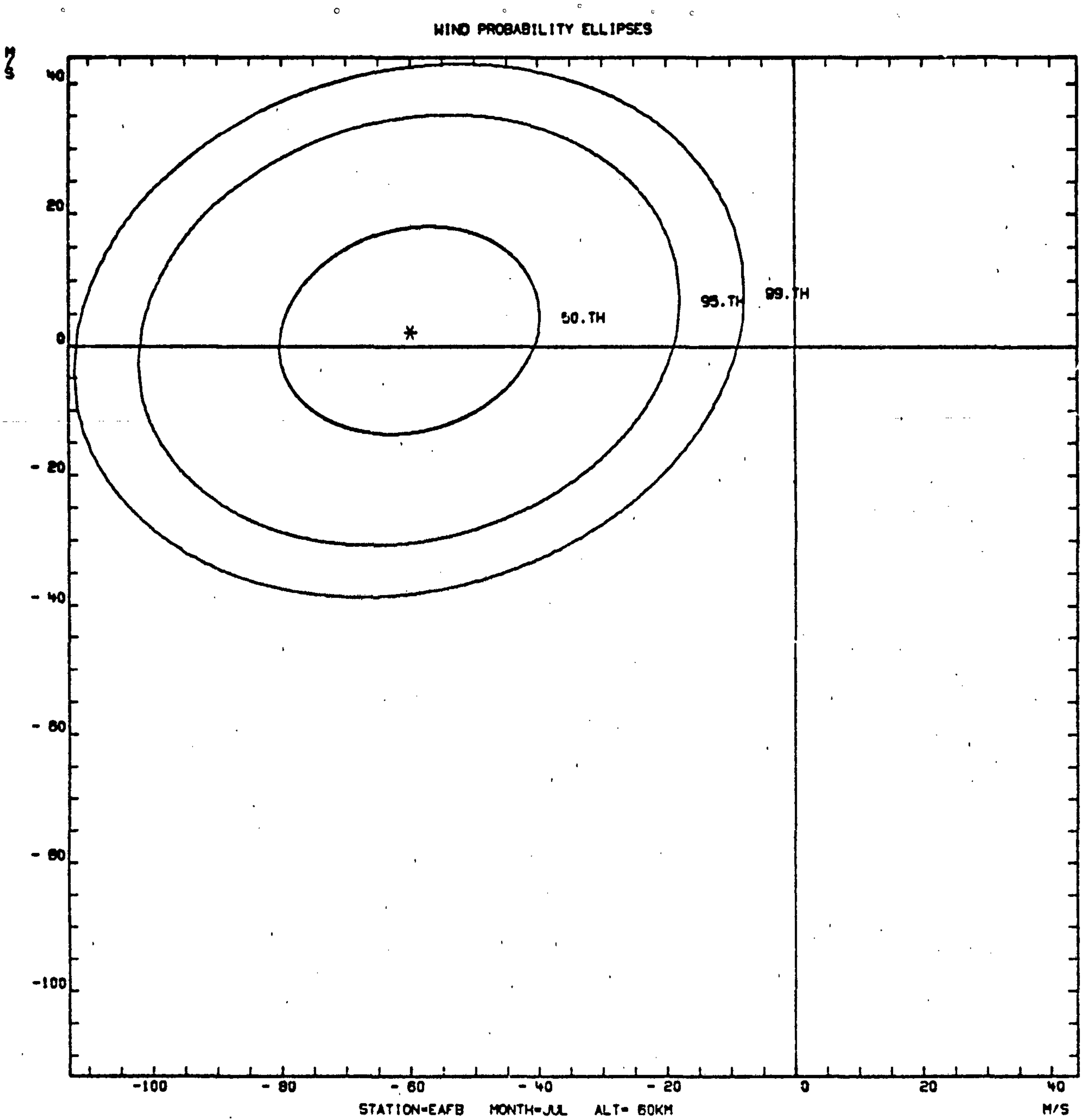

WIND PROBABILITY ELLIPSES
M/S
20
0
-20
-40
-60
50.TH
95.TH
99.TH
-60
-40
-20
0
20
M/S
STATION=LAFB MONTH=JUL ALT= 50KM

Figure A-50.



WIND PROBABILITY ELLIPSES
M/S
40
20
0
-20
-40
-60
-80
-100
50.TH
95.TH
99.TH
-100
-80
-60
-40
-20
0
20
40
STATION=EAFB MONTH=JUL ALT= 60KM
M/S

Figure A-51.

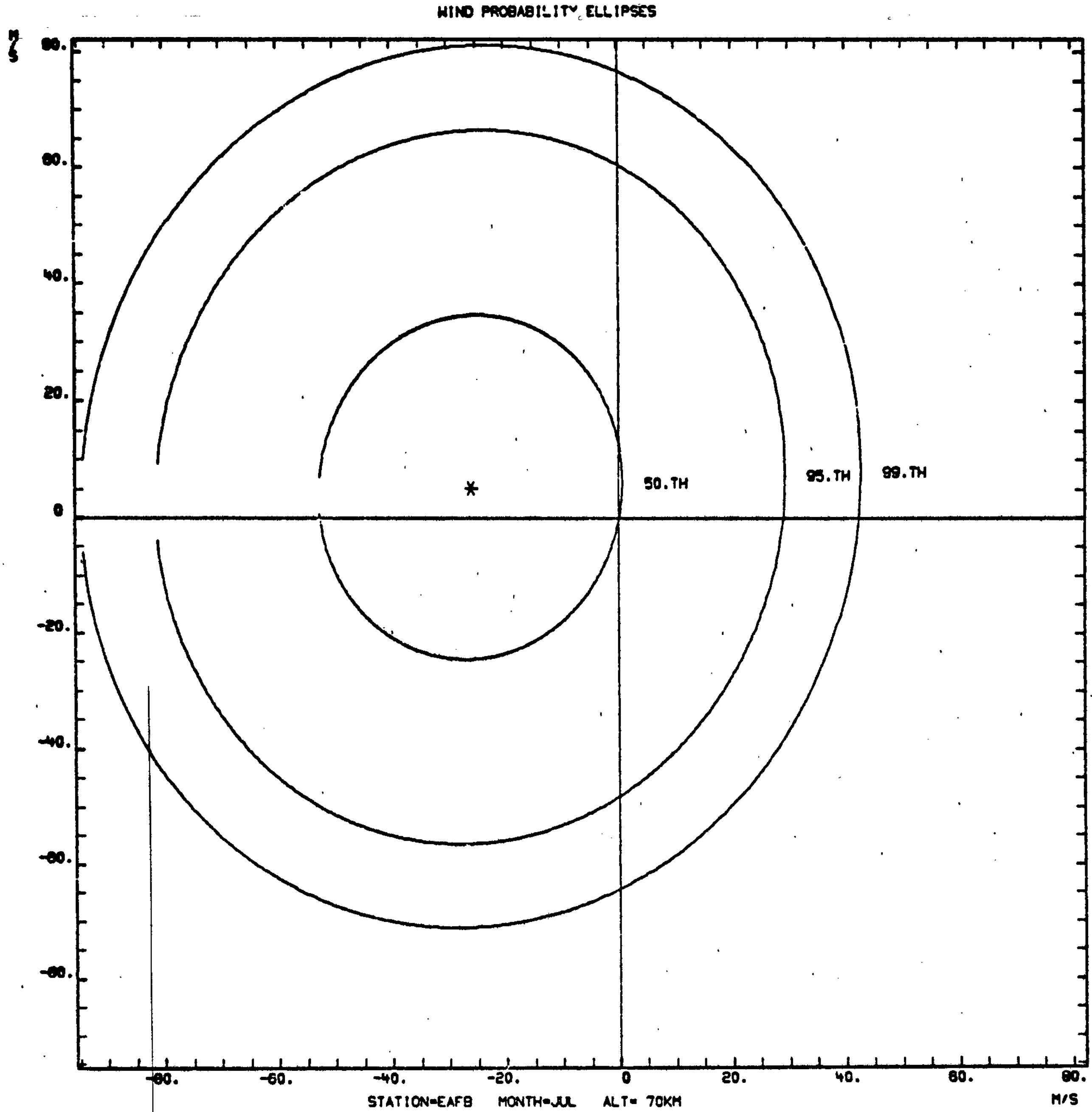

WIND PROBABILITY ELLIPSES
M/S
80.
60.
40.
20.
0
-20.
-40.
-60.
-80.
50.TH
95.TH
99.TH
-80.
-60.
-40.
-20.
0
20.
40.
60.
80.
STATION=EAFB MONTH=JUL ALT= 70KM
M/S

Figure A-52.

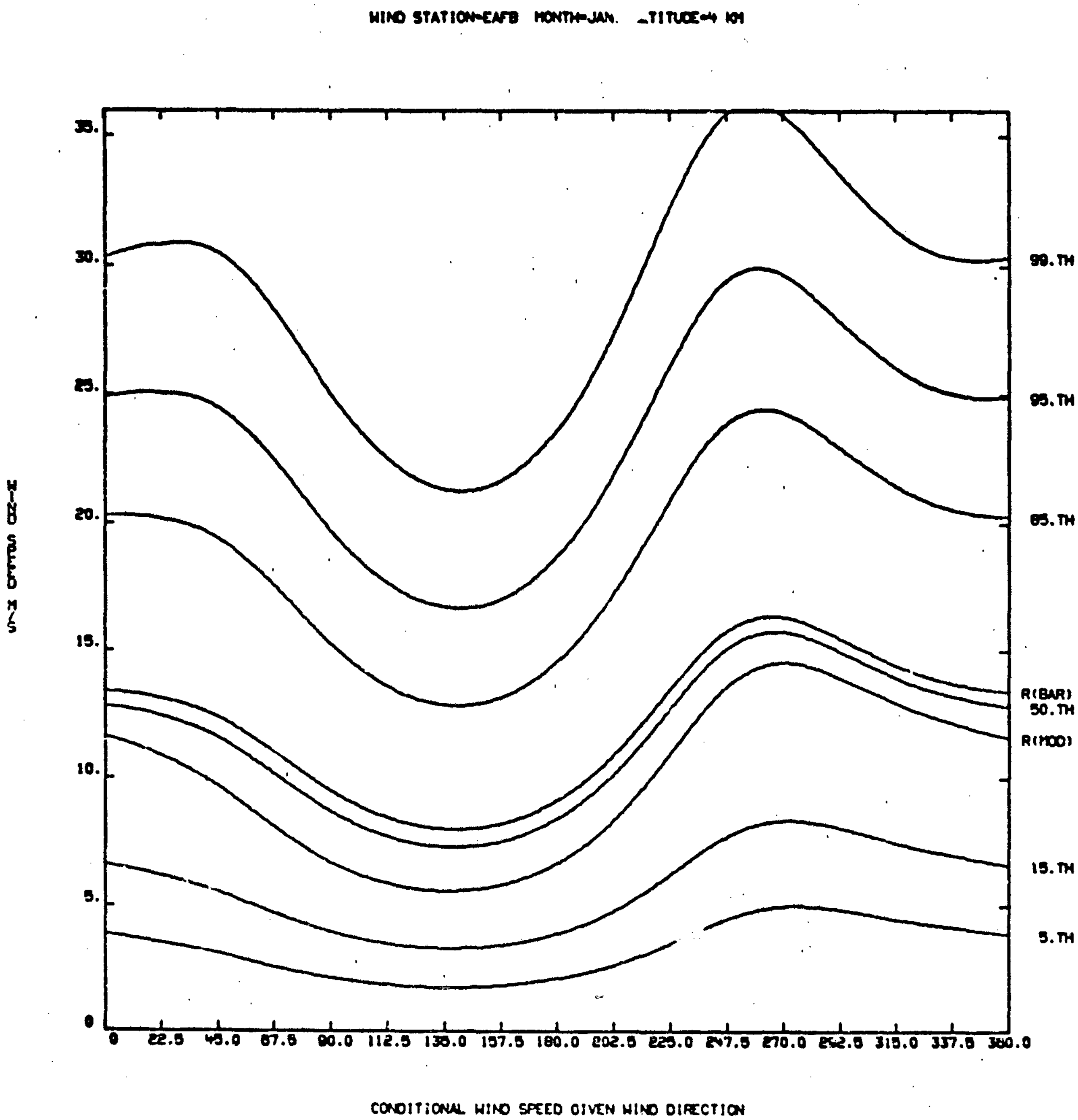
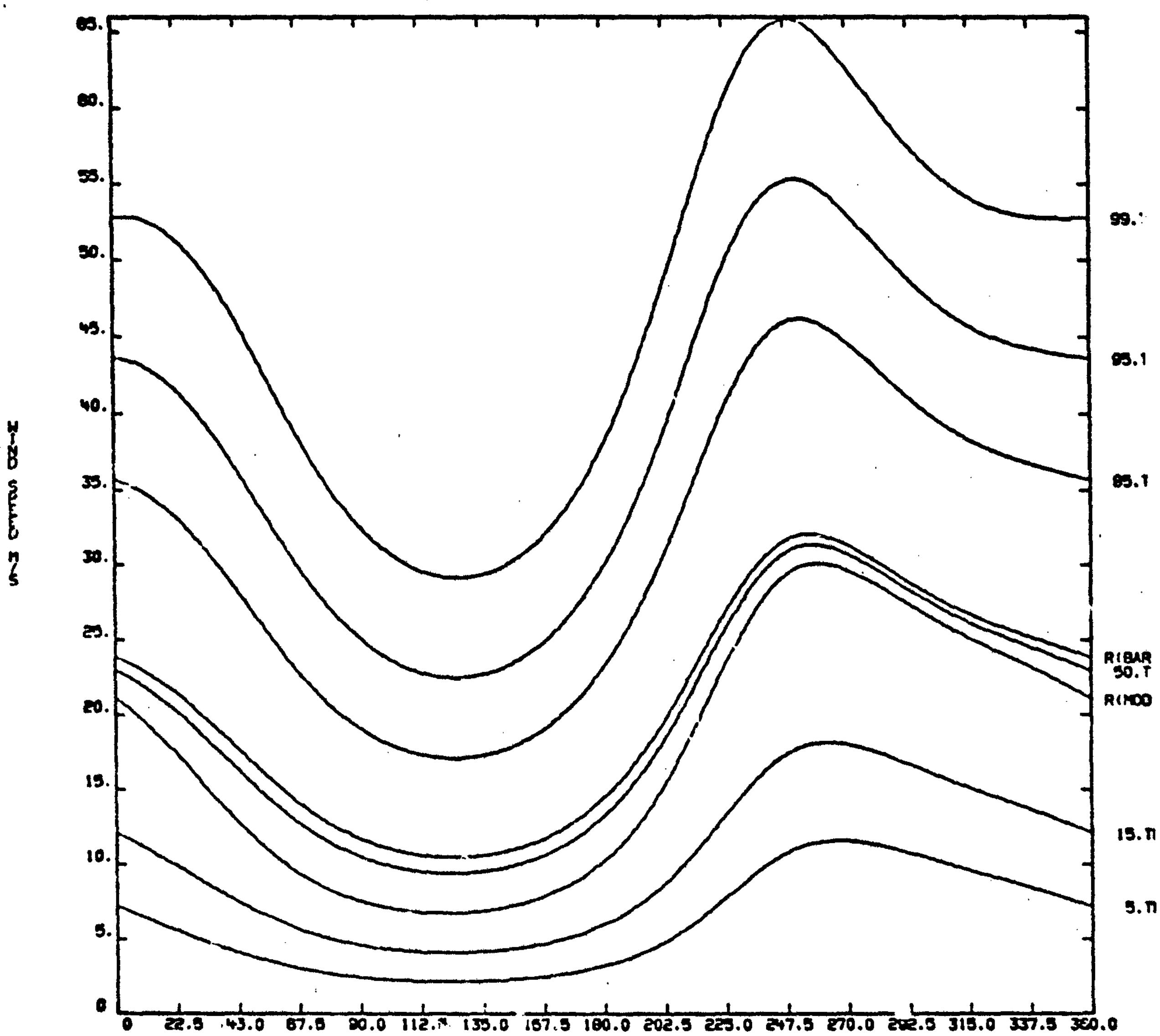

WIND STATION=EAFB MONTH=JAN. _TITUDE=4 KM
35.
30.
25.
20.
15.
10.
5.
0
WIND SPEED M/S
99.TH
95.TH
85.TH
R(BAR)
50.TH
R(MOD)
15.TH
5.TH
0 22.5 45.0 67.5 90.0 112.5 135.0 157.5 180.0 202.5 225.0 247.5 270.0 292.5 315.0 337.5 360.0
CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

Figure A-53.

WIND STATION=EAFB MONTH=JAN. ALTITUDE=12 KM



CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

Figure A-54.

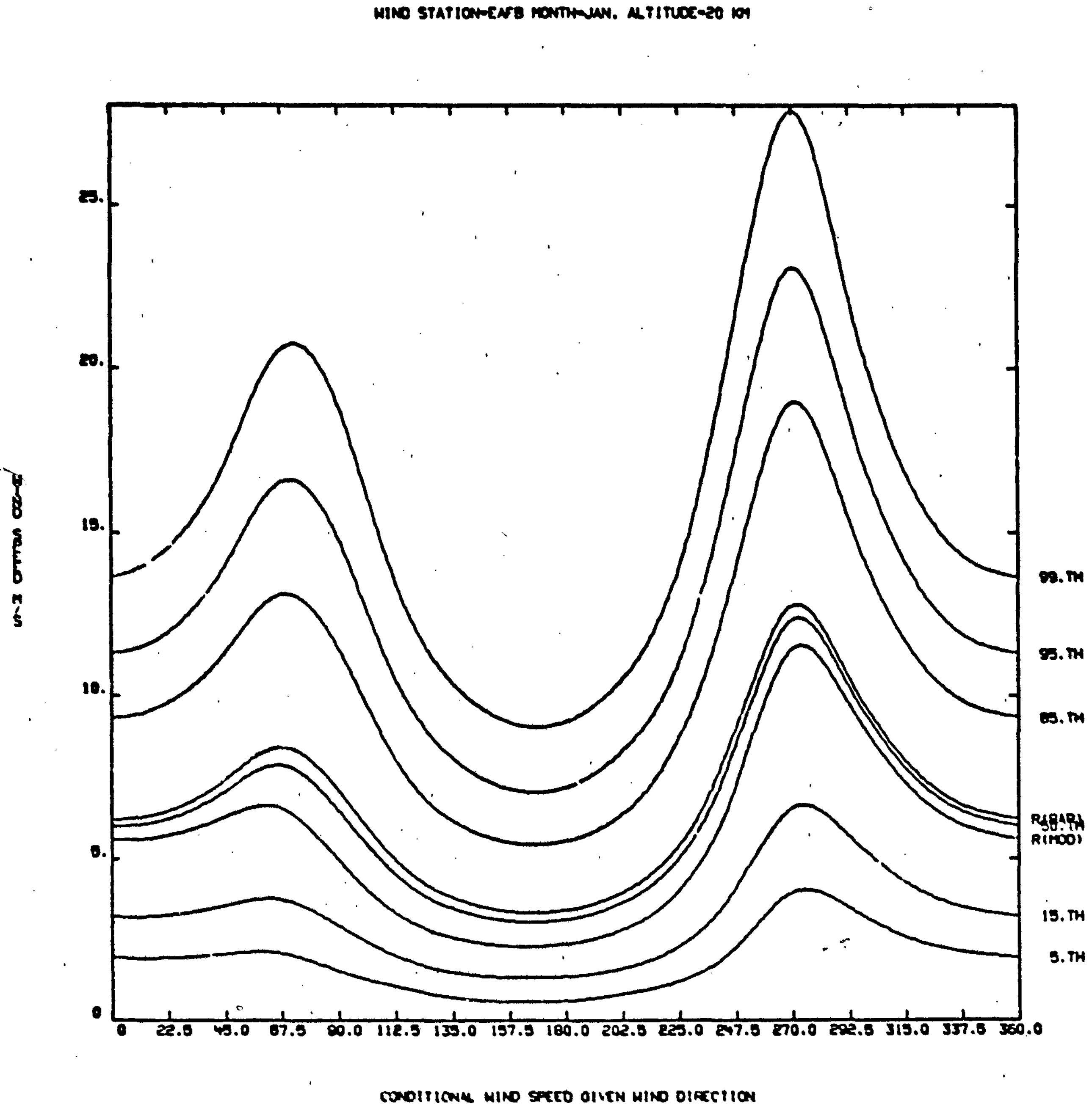
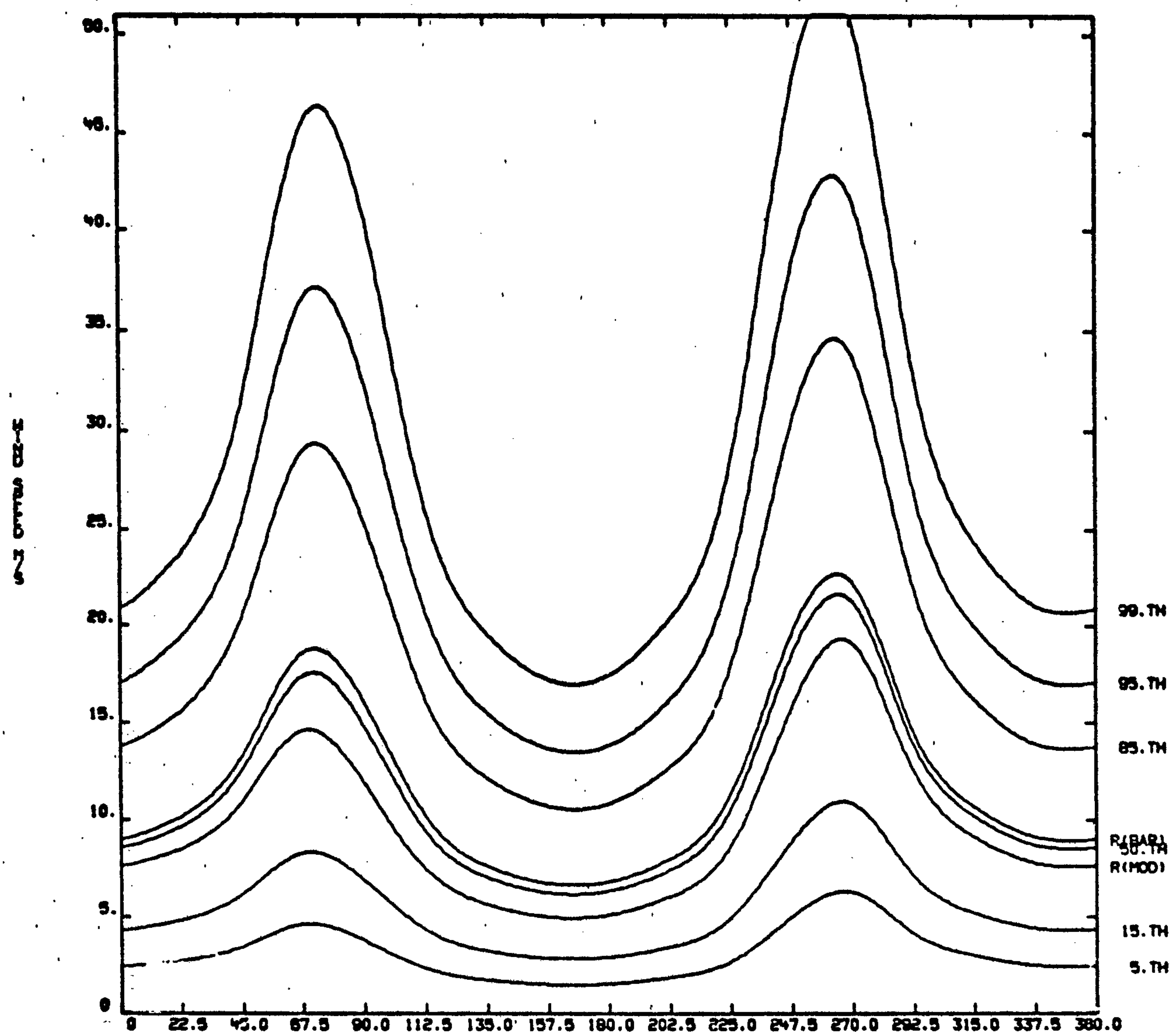

WIND STATION=EAFB MONTH=JAN. ALTITUDE=20 KM
25.
20.
15.
10.
5.
0
0 22.5 45.0 67.5 90.0 112.5 135.0 157.5 180.0 202.5 225.0 247.5 270.0 292.5 315.0 337.5 360.0
99.TH
95.TH
85.TH
R(BAR)
50.TH
R(MOD)
15.TH
5.TH
CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

Figure A-55.

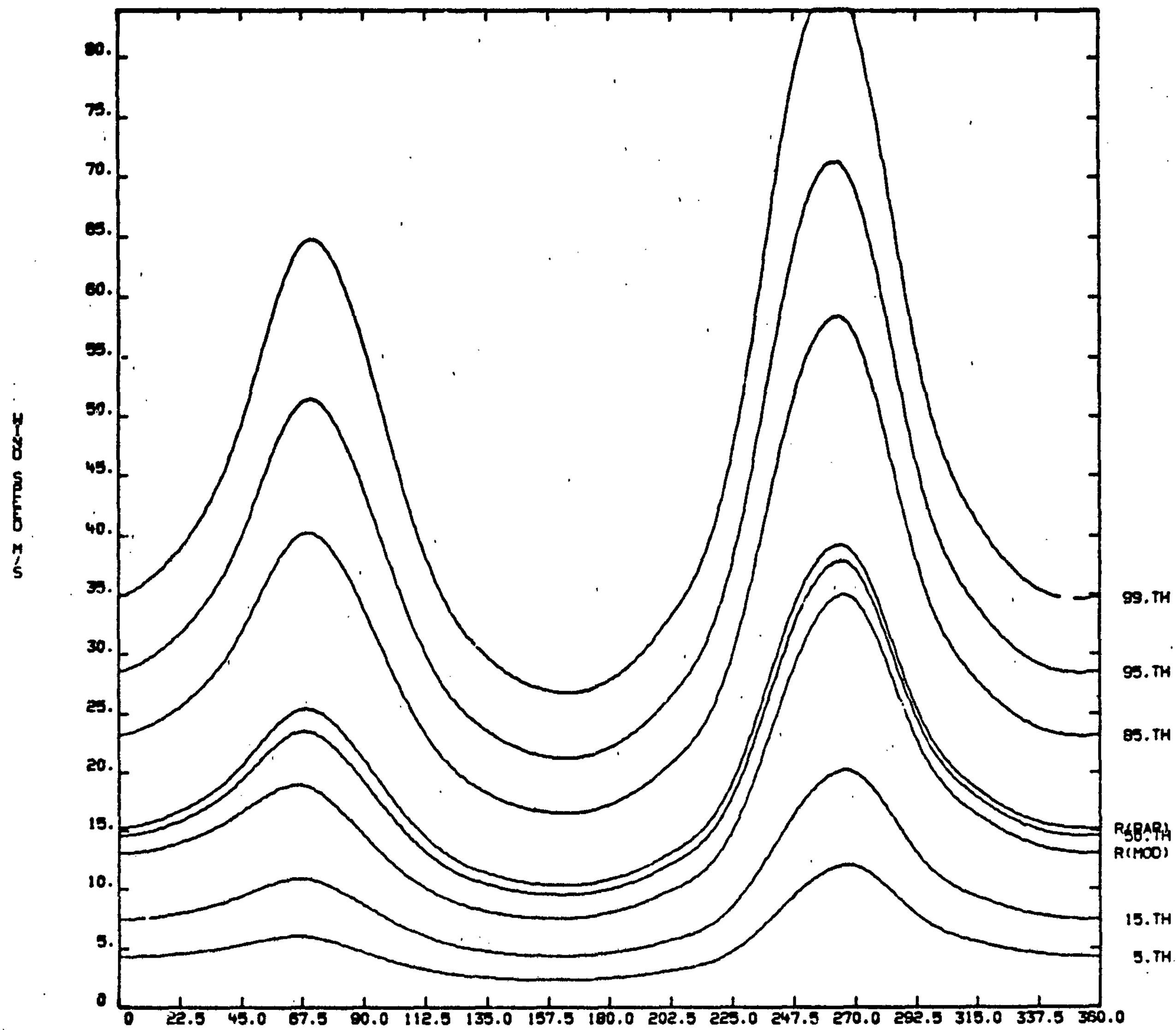
WIND STATION=EAFB MONTH=JAN. ALTITUDE=30 KM



CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

Figure A-56.

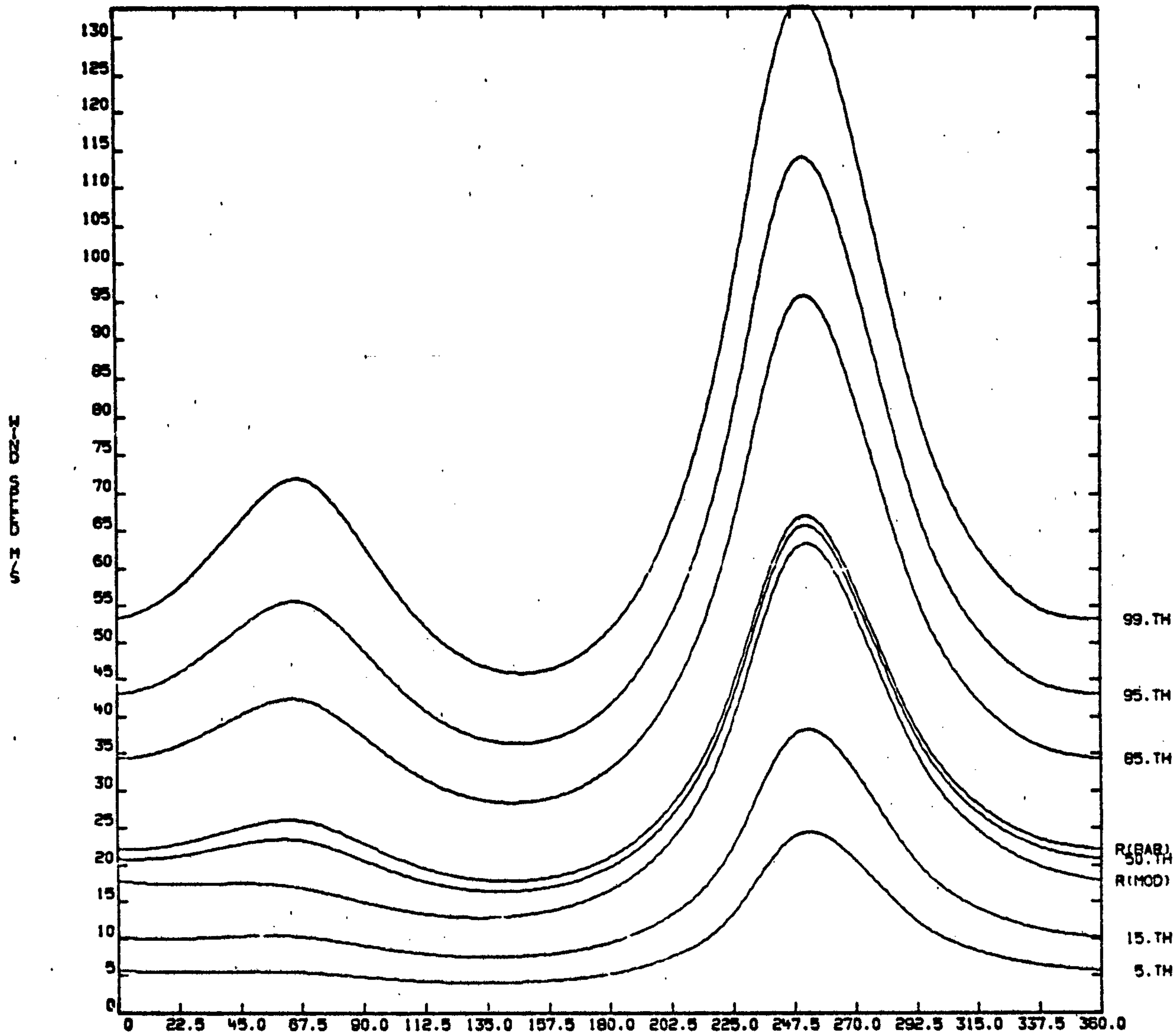
STATION=EAFB MONTH=JAN ALT= 40KM



CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

Figure A-57.

STATION=EAFB MONTH=JAN ALT= 50KM



CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

Figure A-58.

STATION=EAFB MONTH=JAN ALT= 60KM

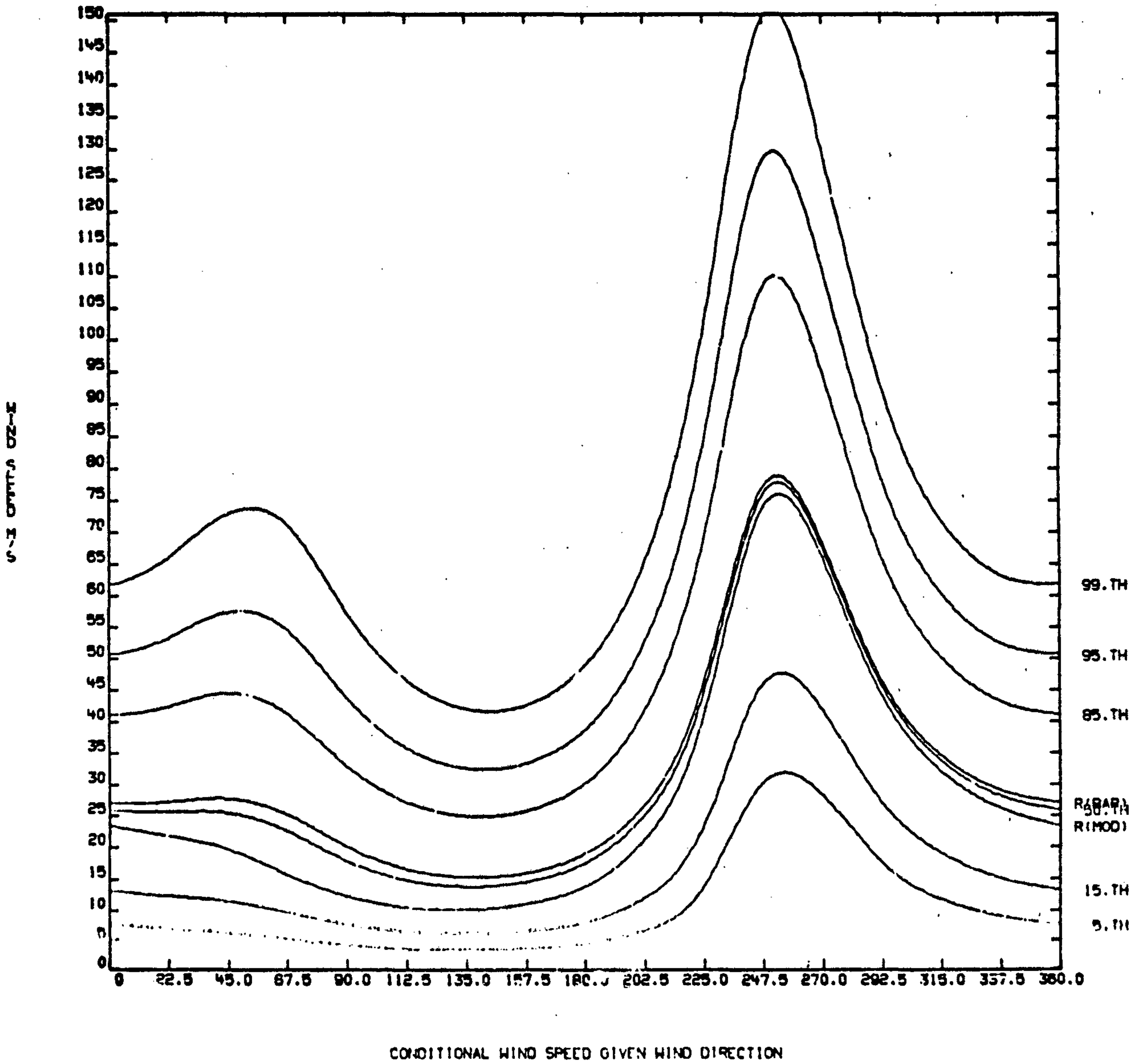
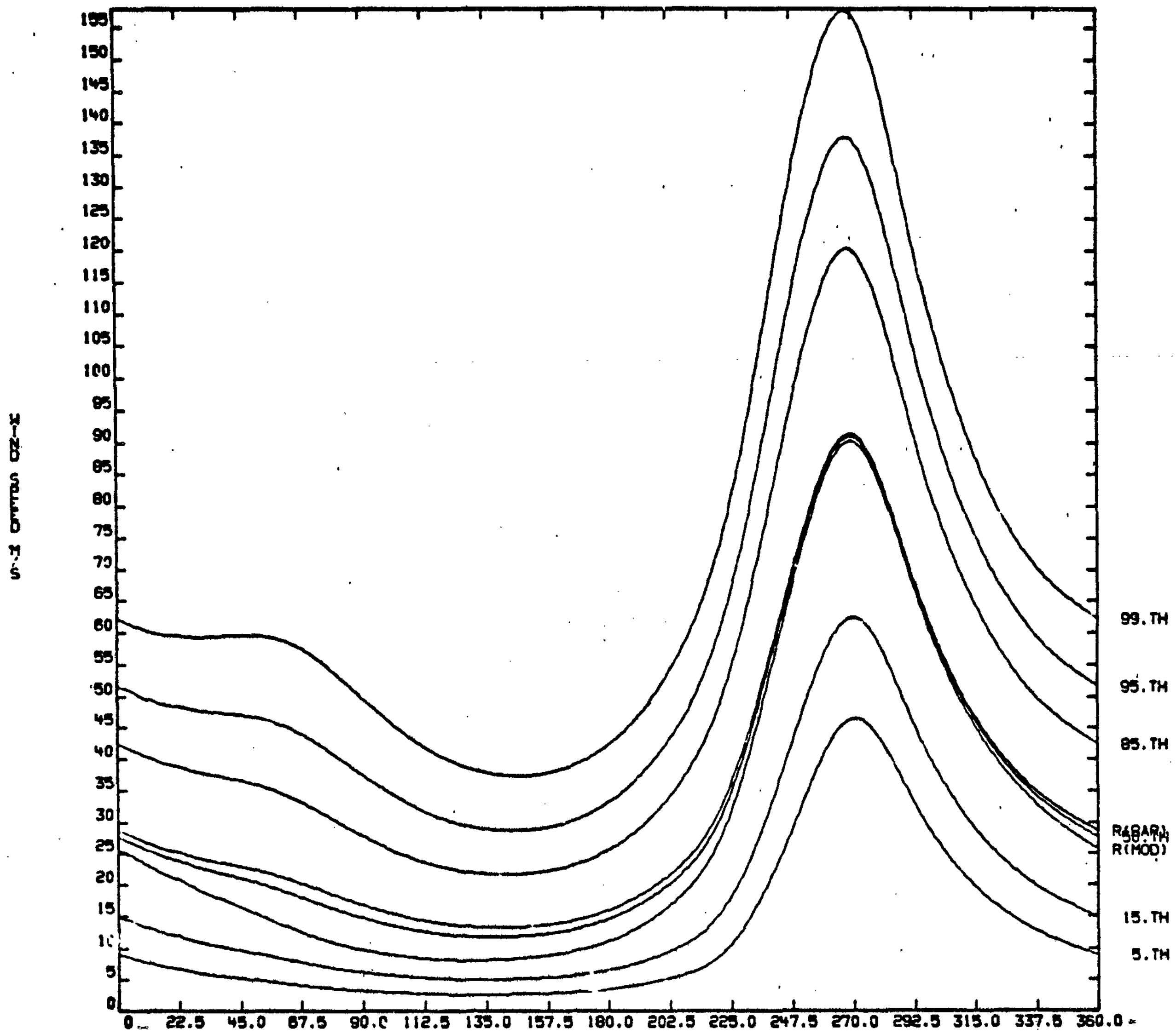


Figure A-59.

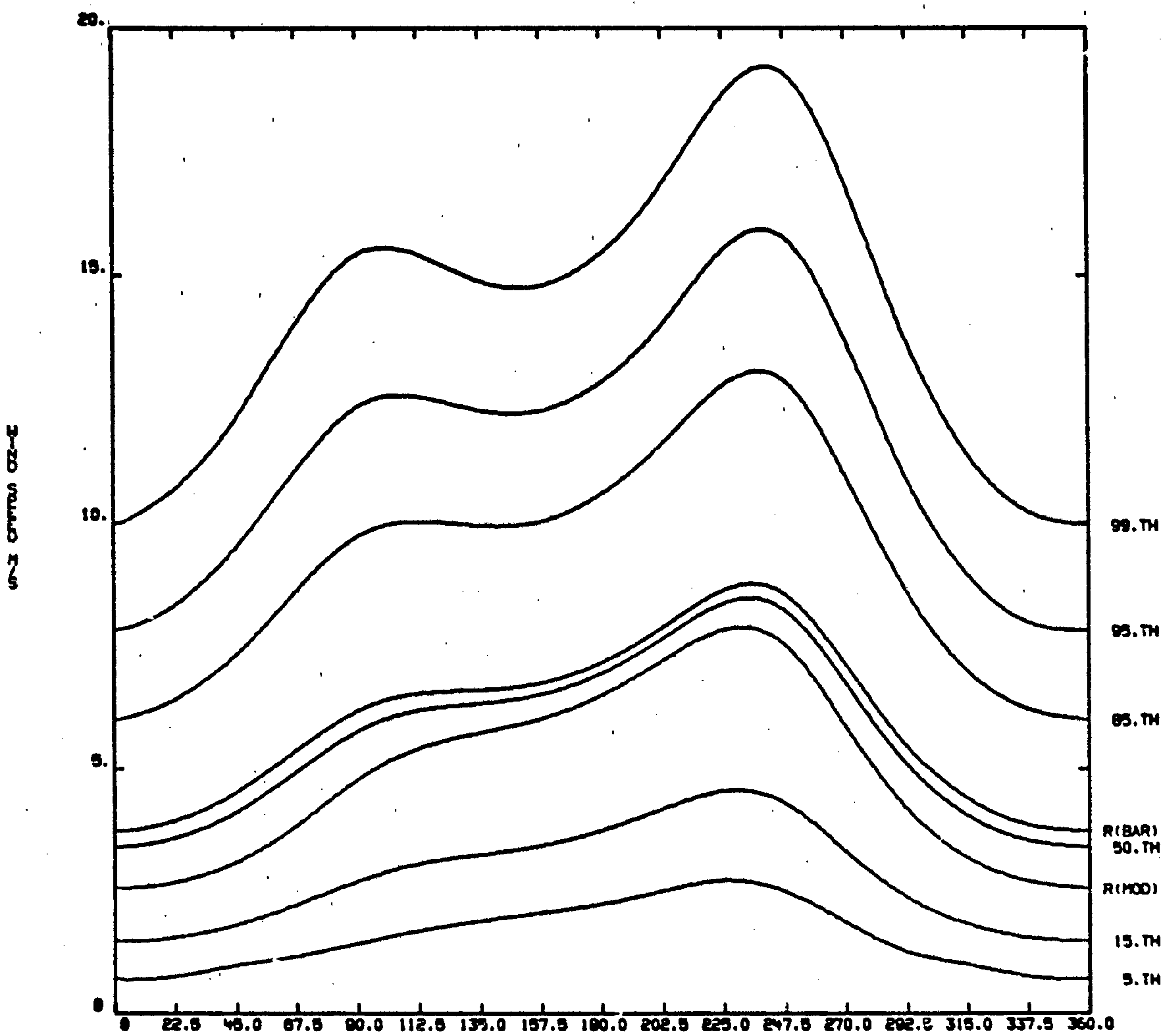
STATION=EAFB MONTH=JAN ALT= 70KM



CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

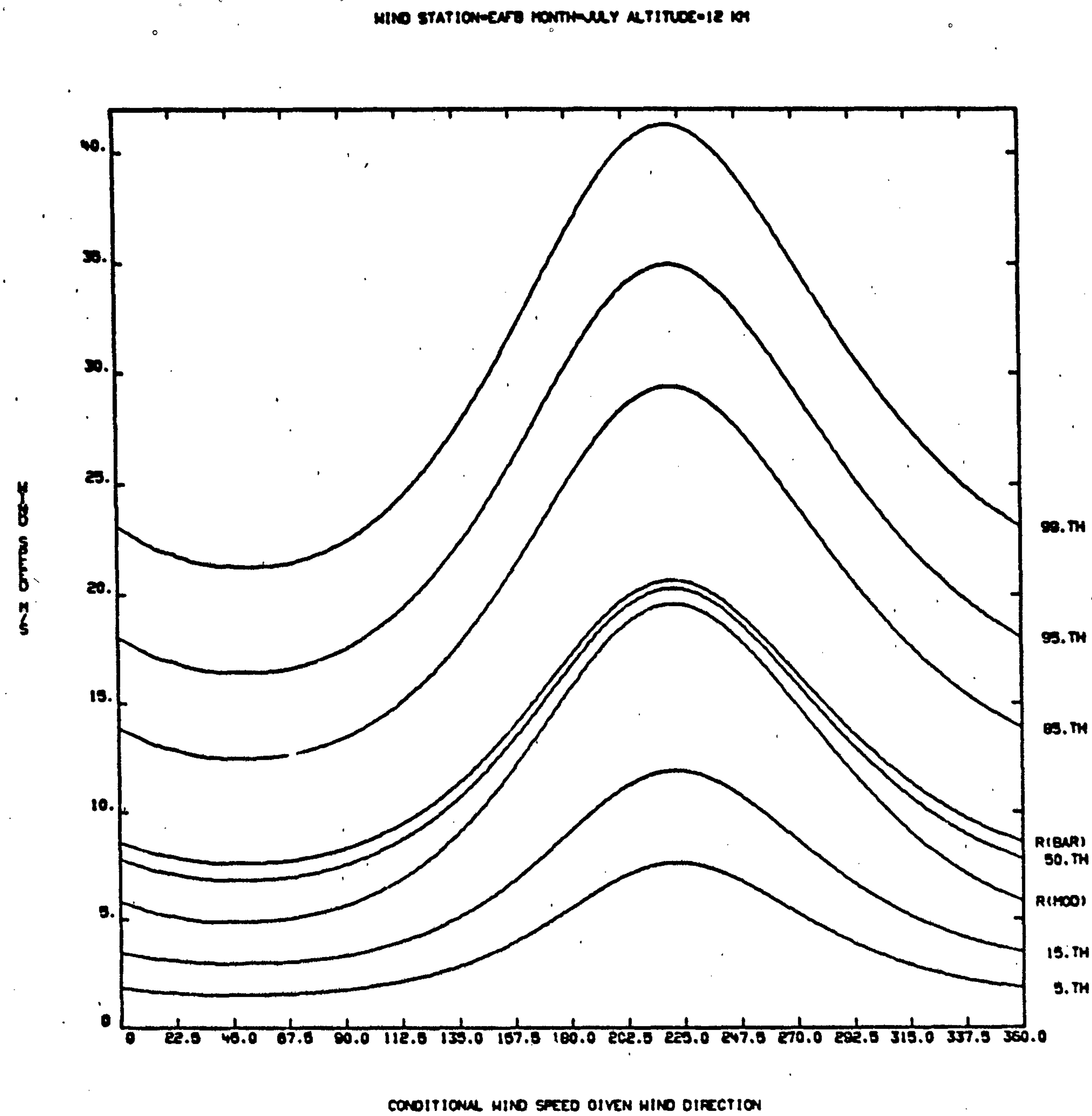
Figure A-60.

WIND STATION=EAFB MONTH=JULY ALTITUDE=4 KM



CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

Figure A-61.



WIND STATION=EAFB MONTH=JULY ALTITUDE=12 KM
WIND SPEED M/S
40.
35.
30.
25.
20.
15.
10.
5.
0
0 22.5 45.0 67.5 90.0 112.5 135.0 157.5 180.0 202.5 225.0 247.5 270.0 292.5 315.0 337.5 360.0
99.TH
95.TH
85.TH
R(BAR)
50.TH
R(MOD)
15.TH
5.TH
CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

Figure A-62.

WIND STATION=EAFB MONTH=JULY ALTITUDE=20 KM

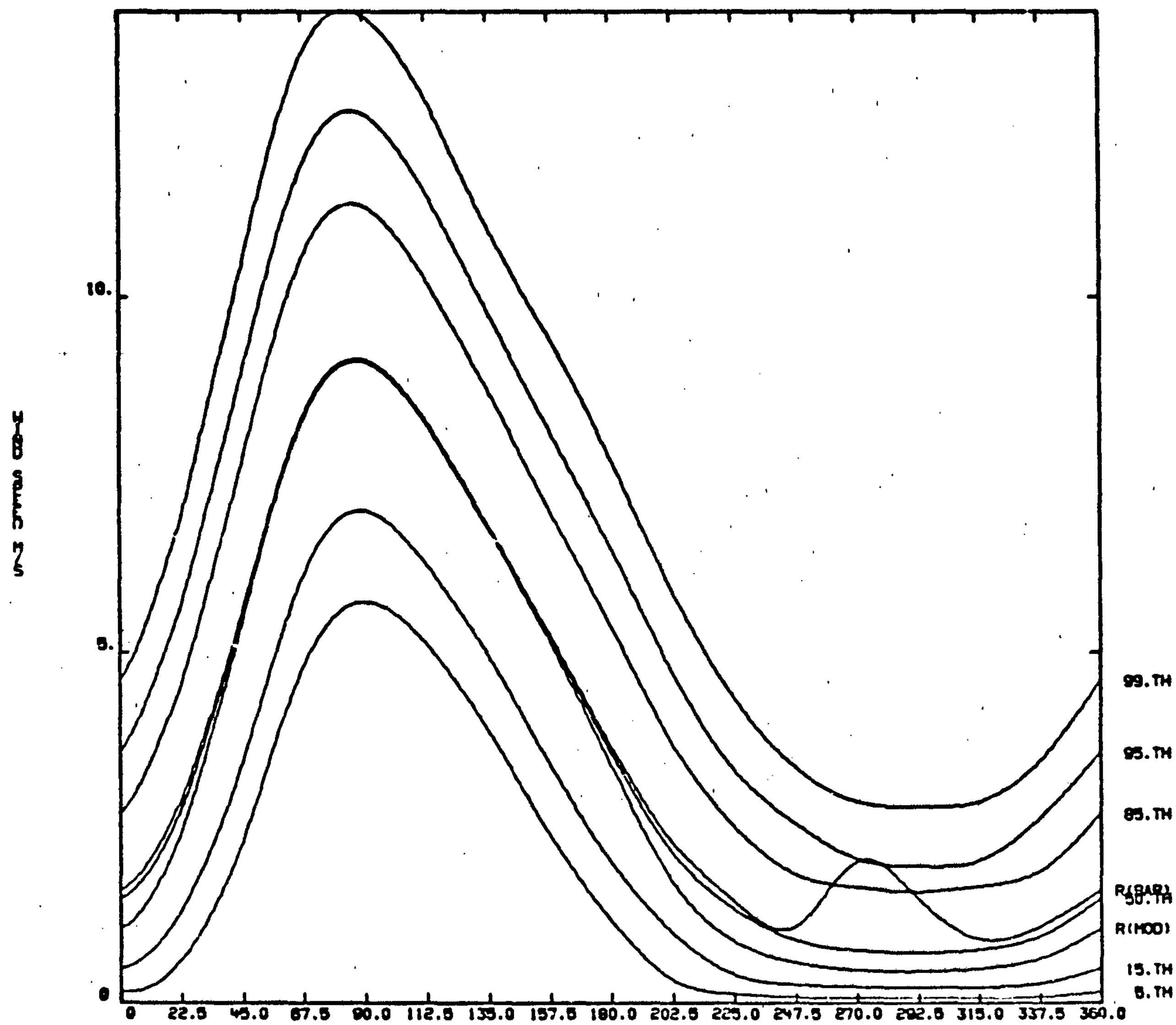
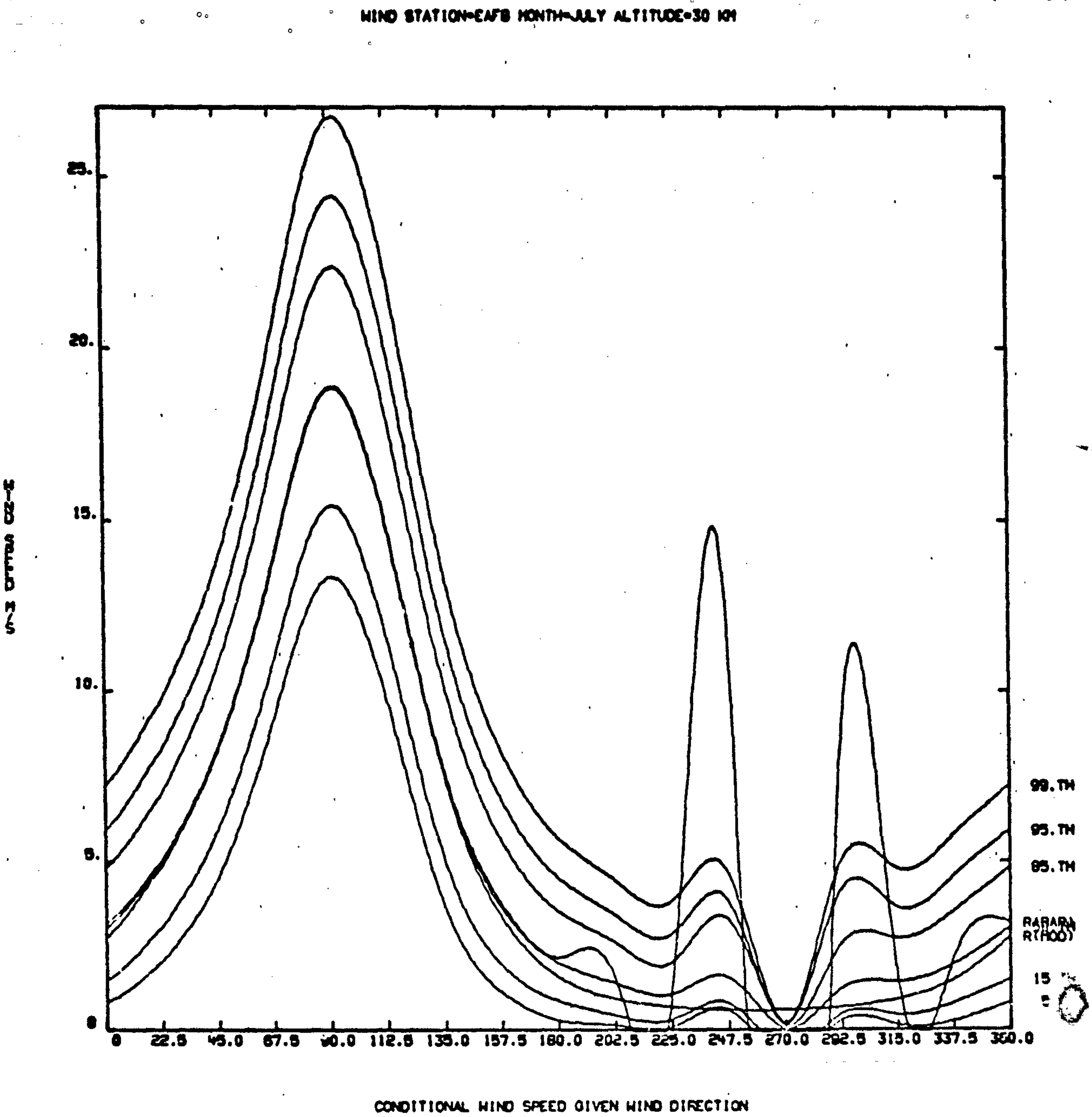
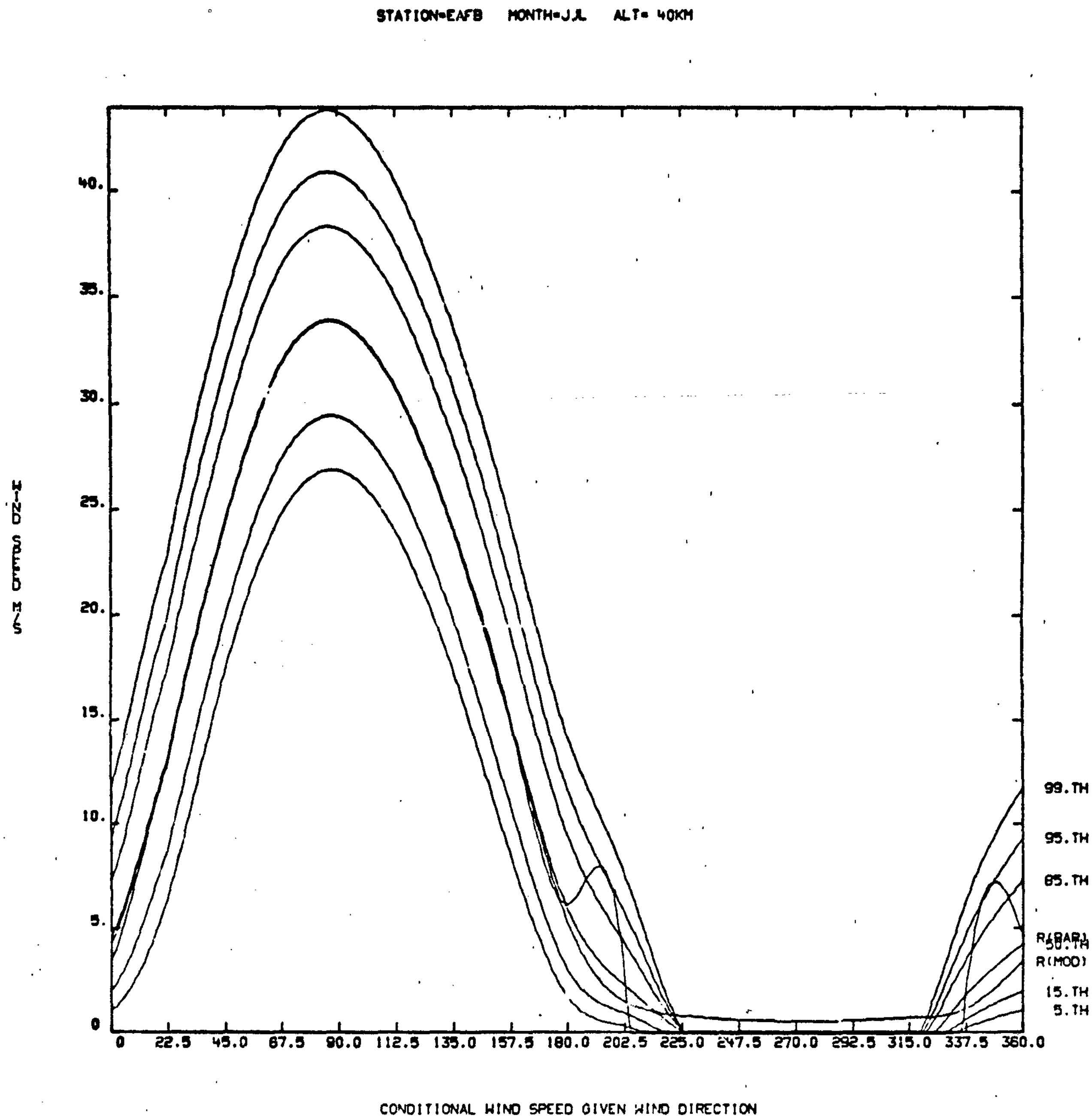


Figure A-63.



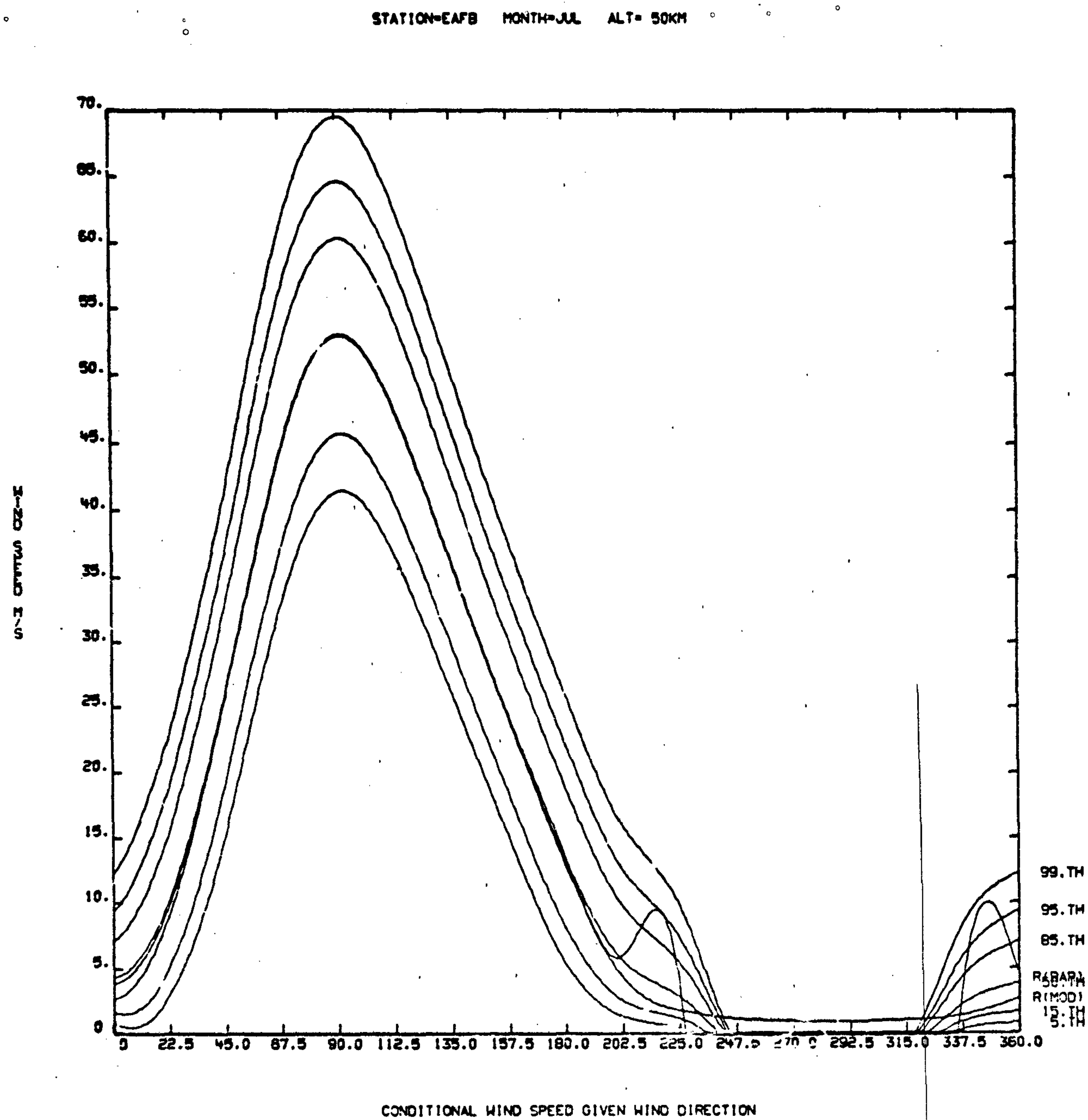
WIND STATION=EAFB MONTH=JULY ALTITUDE=30 KM
WIND SPEED M/S
25.
20.
15.
10.
5.
0
0
22.5
45.0
67.5
90.0
112.5
135.0
157.5
180.0
202.5
225.0
247.5
270.0
292.5
315.0
337.5
360.0
99.TH
95.TH
85.TH
CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

Figure A-64.



STATION=EAFB MONTH=JUL ALT= 40KM
WIND SPEED M/S
40.
35.
30.
25.
20.
15.
10.
5.
0
0 22.5 45.0 67.5 90.0 112.5 135.0 157.5 180.0 202.5 225.0 247.5 270.0 292.5 315.0 337.5 360.0
99.TH
95.TH
85.TH
R(BAR)
50.TH
R(MOD)
15.TH
5.TH
CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

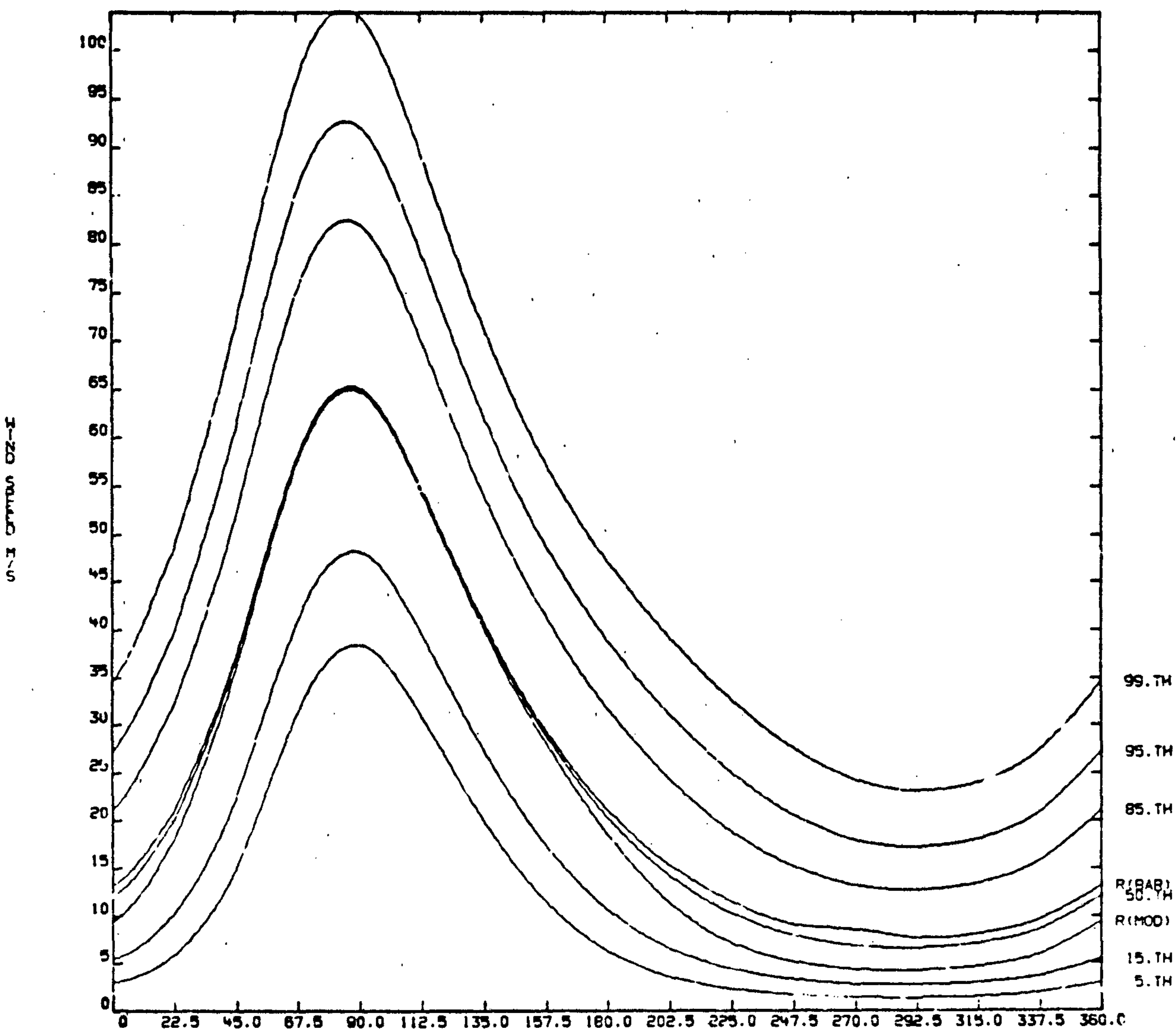
Figure A-65.



STATION=EAFB MONTH=JUL ALT= 50KM
WIND SPEED M/S
70.
65.
60.
55.
50.
45.
40.
35.
30.
25.
20.
15.
10.
5.
0
0
22.5
45.0
67.5
90.0
112.5
135.0
157.5
180.0
202.5
225.0
247.5
270.0
292.5
315.0
337.5
360.0
99.TH
95.TH
85.TH
R(BAR)
50.TH
R(MOD)
15.TH
5.TH
CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

Figure A-66.

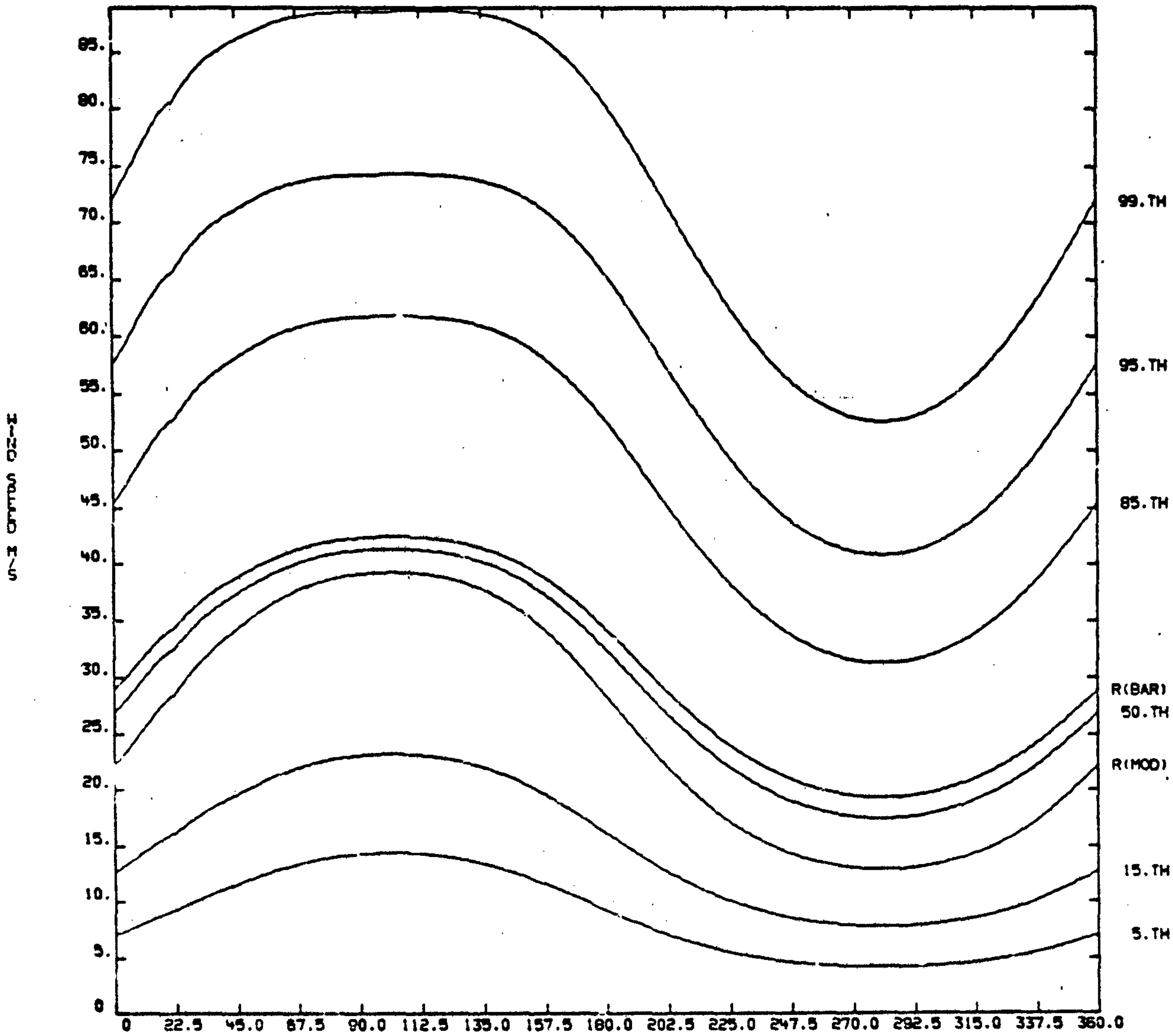
STATION=EAFB MONTH=JUL ALT= 60KM



CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

Figure A-67.

STATION=EAFB   MONTH=JUL   ALT= 70KM



CONDITIONAL WIND SPEED GIVEN WIND DIRECTION

Figure A-68.

APPENDIX B

RANGE SPECIFIC INFORMATION AND THERMODYNAMIC QUANTITIES FOR EDWARDS AFB, CALIFORNIA
(Data for 32-70 km altitude is from Point Mugu, California)

1. Range Specific Information

To prevent further character size reduction for tables I through IV certain range specific information has been omitted. This important information is given in table B-1.

TABLE B-1

Header Record 0-30 Km

Table Number	0	Table Number	0
Data Source (1 = DATSAV, 2 = WDC-A)	1	Data Source (1 = DATSAV, 2 = WDC-A)	2
Call Letters	EDW	Call Letters	NTD
WMO Number	723810	WMO Number	72391
Latitude	34.55	Latitude	34.07
Direction (N or S)	N	Direction (N or S)	N
Longitude	117.54	Longitude	119.07
Direction (E or W)	W	Direction (E or W)	W
Elevation in Meters	705	Elevation in Meters	4
Start Period of Record (Mo-Yr)	160	Start Period of Record (Mo-Yr)	169
End Period of Record (Mo-Yr)	1279	End Period of Record (Mo-Yr)	1278
No. of Time Windows (0, 1 or 2)	1	No. of Time Windows (0, 1 or 2)	1
Start Time Window #1 (Hr-MNZ)	900	Start Time Window #1 (Hr-MNZ)	1200
End Time Window #1	1800	End Time Window #1	2200
Start Time Window #2	0	Start Time Window #2	0
End Time Window #2	0	End Time Window #2	0
Date of RRA	1080	Date of RRA	1080
Altitude Range of RRA Low Level (km)	0	Altitude Range of RRA Low Level (km)	30
Altitude Range of RRA High Level (km)	30	Altitude Range of RRA High Level (km)	70
Start Deviation of Thermodynamic Limits	6.0	Start Deviation of Thermodynamic Limits	6.0
Wind Limits	6.0	Wind Limits	6.0

2. Thermodynamic Quantities

This section presents examples of further computations and graphical displays of pressure, density, and virtual temperature statistics that can be derived from the data given in tables II, III, and IV. No attempt is made to

present complete nor exhaustive illustrations that can be made to aid in visualizing the relationships that can be made from the data in tables II and IV. The choices are those that aided the committee to verify the reasonableness of the tabulations.

2.1 Monthly Means from the Annual Mean

The hydrostatic model values in table IV are used to compute (1) the monthly mean differences relative to the annual mean values of pressure, density, and virtual temperature expressed in percent and (2) the monthly mean difference in virtual temperature for the annual mean virtual temperature expressed in degrees Kelvin. Examples of these four statistics are given in table B-2 for January and table B-3 for July. Graphical displays of the four statistics contained in tables B-2 and B-3 are shown in figures B-1 through B-8. Also, the relative differences between the monthly mean values from table IV-1 through IV-12 for all months from the annual mean values (table IV-13) are illustrated in figure B-9 for pressure, in figure B-10 for density, and in figure B-11 for virtual temperature. The monthly mean virtual temperature differences from the annual mean virtual temperature for all months are given in figure B-12. The simple sum of the monthly mean differences from the annual mean values of these quantities is not zero. This is because the annual mean statistical parameters are computed (see section C of text) by weighting the monthly means by the number of observations in each month.

2.2 Coefficients of Variation and Derived Correlation Coefficients

The coefficient of variation, C_V, is defined by the standard deviation with respect to the mean divided by the mean. The coefficients of variation for pressure, C_VP, and density, C_VD, were computed using the standard deviations from table II and the hydrostatic mean values from table IV. The coefficient of variation for temperature uses the standard deviations of virtual temperature from table III to the altitude where virtual temperature exists. Above this altitude, the standard deviations of temperature are from table II. The mean values for temperature (virtual temperature to the altitude where it exists) are taken from table IV. No distinction is made in the table headings in table B-4 (January) and table B-5 (July) and all related figures between virtual temperature and temperature.

From the coefficients of variation for pressure, density, and temperature (virtual temperature to the altitude where it exists), the correlation coefficients between these quantities are derived using Buell's method (see reference in text). The equations for these derived correlation coefficients are

$$r(P,T) = \frac{(C_VT)^2 + (C_VP)^2 - (C_VD)^2}{2\,[C_VT \cdot C_VP]} \quad , \qquad \text{(B-1)}$$

$$r(P,D) = \frac{(C_VD)^2 - (C_VT)^2 + (C_VP)^2}{2\,[C_VP \cdot C_VD]} \quad , \qquad \text{(B-2)}$$

$$r(T,D) = \frac{(C_VP)^2 - (C_VD)^2 - (C_VT)^2}{2\,[C_VT \cdot C_VD]} \quad , \qquad \text{(B-3)}$$

The correlation coefficients in tables B-4 and B-5 are derived from the above equations.

A test for the validity of the derived correlation coefficients is that all three of the following inequalities be satisfied.

$$\begin{aligned} &C_VP - [C_VD + C_VT] < 0 \\ &C_VD - [C_VT + C_VP] < 0 \qquad \text{(B-4)} \\ &C_VT - [C_VP + C_VD] < 0 \end{aligned}$$

In these examples (tables B-4 and B-5) the numerical values from equation (B-4) are all negative; hence, the derived correlation test is considered valid. The rare exceptions to this test for several RRAs occur at the extreme highest altitudes, where sample sizes for the statistical sample are small.

The statistical parameters from table B-4 (January) and table B-5 (July) are illustrated in figures B-13 through B-16.

For all months the C_VP values are shown in figure B-17, the C_VD values are shown in figure B-18, and C_VT values are shown in figure B-19. If the abscissa on the figures for the coefficient of variation were multiplied by 100, these figures would show the percentage of the random dispersion of these quantities over the month with respect to the monthly mean for these thermodynamic quantities.

The derived correlation coefficients for all months are illustrated in the following figures:

a) Figure B-20 gives r(P,D).

b) Figure B-21 gives r(P,T).

c) Figure B-22 gives r(T,D).

TABLE B-2.

STATION 723810 MONTH 1
DELTAS IN PERCENT RELATIVE TO ANNUAL

LEVEL	PRESSURE	DENSITY	TEMP.	TMO-TANN(DEG.K)
.000	.74	4.87	-4.04	-11.60
.705	.40	4.14	-3.57	-10.21
1.000	.28	3.40	-2.98	-8.60
2.000	-.06	2.48	-2.51	-7.13
3.000	-.34	1.72	-2.03	-5.63
4.000	-.58	1.28	-1.85	-5.03
5.000	-.82	1.01	-1.82	-4.81
6.000	-1.06	.80	-1.85	-4.76
7.000	-1.32	.71	-2.00	-5.02
8.000	-1.61	.57	-2.18	-5.29
9.000	-1.93	.40	-2.31	-5.44
10.000	-2.28	.07	-2.36	-5.40
11.000	-2.61	-.62	-2.00	-4.45
12.000	-2.86	-1.54	-1.34	-2.92
13.000	-2.99	-2.66	-.34	-.73
14.000	-3.00	-3.30	.32	.68
15.000	-2.93	-3.40	.49	1.04
16.000	-2.86	-3.13	.32	.66
17.000	-2.84	-2.89	.06	.12
18.000	-2.86	-2.56	-.32	-.66
19.000	-2.93	-2.30	-.63	-1.32
20.000	-3.04	-2.25	-.81	-1.73
21.000	-3.18	-2.28	-.93	-1.99
22.000	-3.33	-2.33	-1.03	-2.23
23.000	-3.50	-2.41	-1.12	-2.43
24.000	-3.68	-2.41	-1.31	-2.87
25.000	-3.90	-2.36	-1.56	-3.44
26.000	-4.14	-2.48	-1.70	-3.78
27.000	-4.40	-2.68	-1.79	-4.01
28.000	-4.66	-2.82	-1.90	-4.29
29.000	-4.97	-2.84	-2.17	-4.92
30.000	-5.28	-3.15	-2.16	-4.94
32.000	-5.78	-4.20	-1.43	-3.33
34.000	-6.13	-4.80	-1.12	-2.66
36.000	-6.40	-5.27	-.93	-2.26
38.000	-6.61	-5.68	-.70	-1.73
40.000	-6.81	-5.73	-.86	-2.19
42.000	-6.99	-6.16	-.60	-1.56
44.000	-7.09	-6.59	-.23	-.60
46.000	-7.11	-6.87	.03	.07
48.000	-7.18	-6.37	-.61	-1.64
50.000	-7.44	-5.69	-1.55	-4.13
52.000	-7.89	-5.50	-2.26	-5.99
54.000	-8.43	-6.02	-2.30	-6.04
56.000	-8.95	-6.79	-2.05	-5.34
58.000	-9.39	-7.66	-1.62	-4.17
60.000	-9.73	-8.33	-1.24	-3.16
62.000	-10.04	-8.66	-1.26	-3.14
64.000	-10.21	-9.85	-.12	-.30
66.000	-10.20	-10.19	.20	.48
68.000	-10.02	-10.88	1.23	2.77
70.000	-9.59	-11.13	2.03	4.43

TABLE B-3.

STATION 723810 MONTH 7
DELTAS IN PERCENT RELATIVE TO ANNUAL

LEVEL	PRESSURE	DENSITY	TEMP.	TMO-TANN(DEG.K)
.000	-.54	-4.55	4.08	11.73
.705	-.22	-3.96	3.87	11.09
1.000	-.10	-3.59	3.63	10.46
2.000	.32	-3.16	3.59	10.19
3.000	.73	-2.48	3.29	9.14
4.000	1.11	-1.82	2.97	8.07
5.000	1.47	-1.34	2.84	7.53
6.000	1.84	-.98	2.85	7.35
7.000	2.23	-.80	3.07	7.69
8.000	2.67	-.66	3.36	8.16
9.000	3.10	-.42	3.60	8.40
10.000	3.59	.07	3.61	8.25
11.000	4.21	1.00	3.16	7.03
12.000	4.63	2.34	2.25	4.89
13.000	4.87	4.19	.65	1.39
14.000	4.84	5.85	-.95	-2.01
15.000	4.61	6.51	-1.79	-3.77
16.000	4.32	6.09	-1.67	-3.49
17.000	4.07	5.25	-1.09	-2.27
18.000	3.96	4.19	-.24	-.50
19.000	3.97	3.58	.39	.83
20.000	4.07	3.24	.81	1.73
21.000	4.23	3.06	1.14	2.44
22.000	4.43	3.08	1.31	2.83
23.000	4.65	3.21	1.38	3.00
24.000	4.88	3.27	1.55	3.38
25.000	5.12	3.65	1.43	3.15
26.000	5.35	3.79	1.49	3.30
27.000	5.59	4.07	1.45	3.24
28.000	5.82	4.25	1.51	3.40
29.000	6.05	4.46	1.52	3.44
30.000	6.29	4.72	1.50	3.42
32.000	6.71	5.31	1.29	3.02
34.000	7.08	5.85	1.16	2.76
36.000	7.40	6.36	.93	2.26
38.000	7.65	6.73	.84	2.08
40.000	7.91	6.92	.91	2.30
42.000	8.14	7.29	.76	1.98
44.000	8.30	7.91	.35	.93
46.000	8.37	8.14	.20	.53
48.000	8.43	8.08	.27	.71
50.000	8.51	8.17	.30	.81
52.000	8.58	8.32	.21	.56
54.000	8.59	8.70	-.14	-.37
56.000	8.49	9.10	-.59	-1.53
58.000	8.19	9.81	-1.52	-3.91
60.000	7.69	9.82	-1.98	-5.03
62.000	6.98	10.10	-2.88	-7.16
64.000	6.15	9.03	-2.70	-6.50
66.000	5.27	8.47	-3.02	-7.08
68.000	4.34	7.48	-2.91	-6.56
70.000	3.46	6.13	-2.55	-5.56

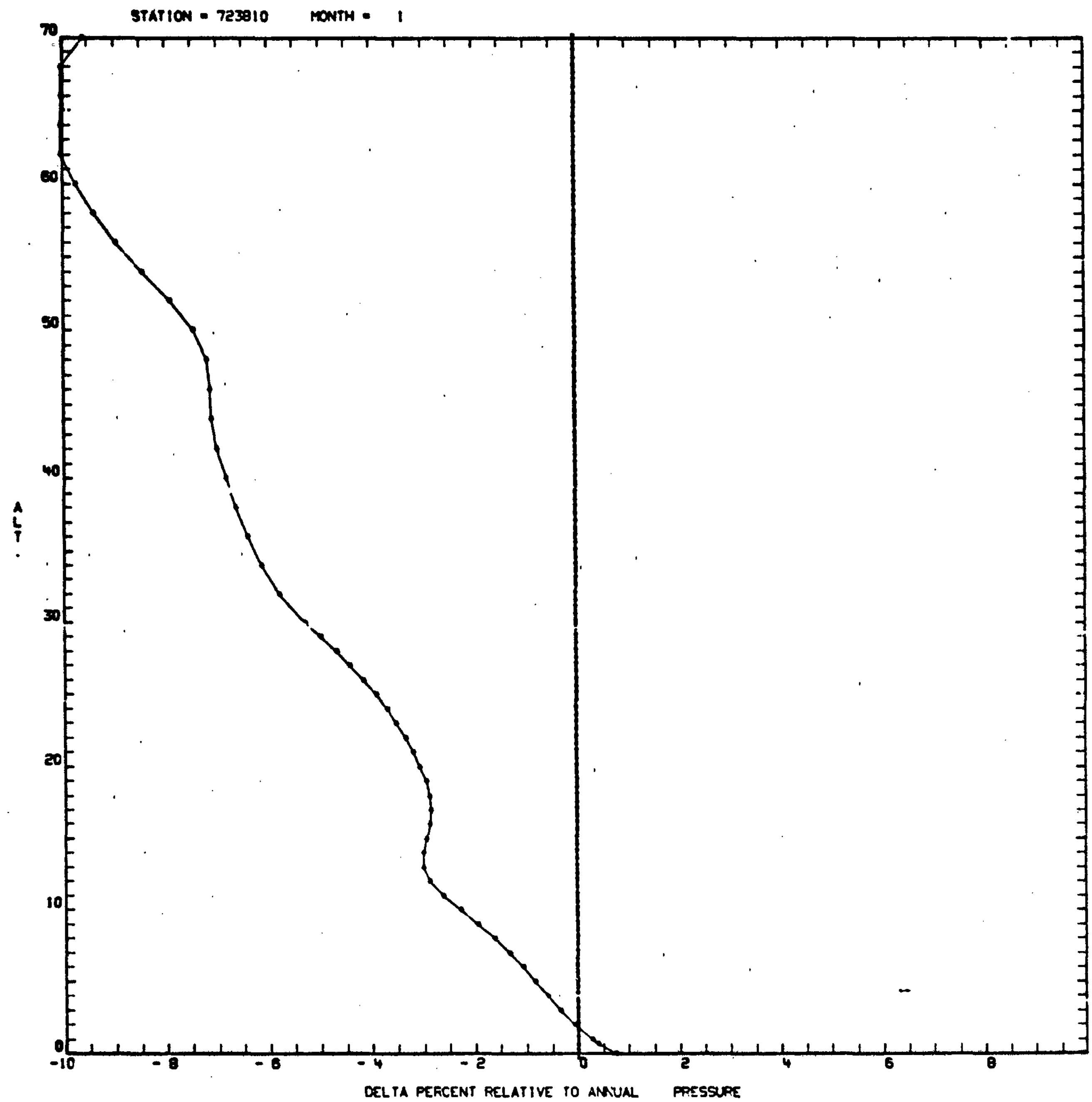

STATION = 723810 MONTH = 1
70
60
50
40
30
20
10
0
ALT.
-10
-8
-6
-4
-2
0
2
4
6
8
DELTA PERCENT RELATIVE TO ANNUAL PRESSURE

Figure B-1.

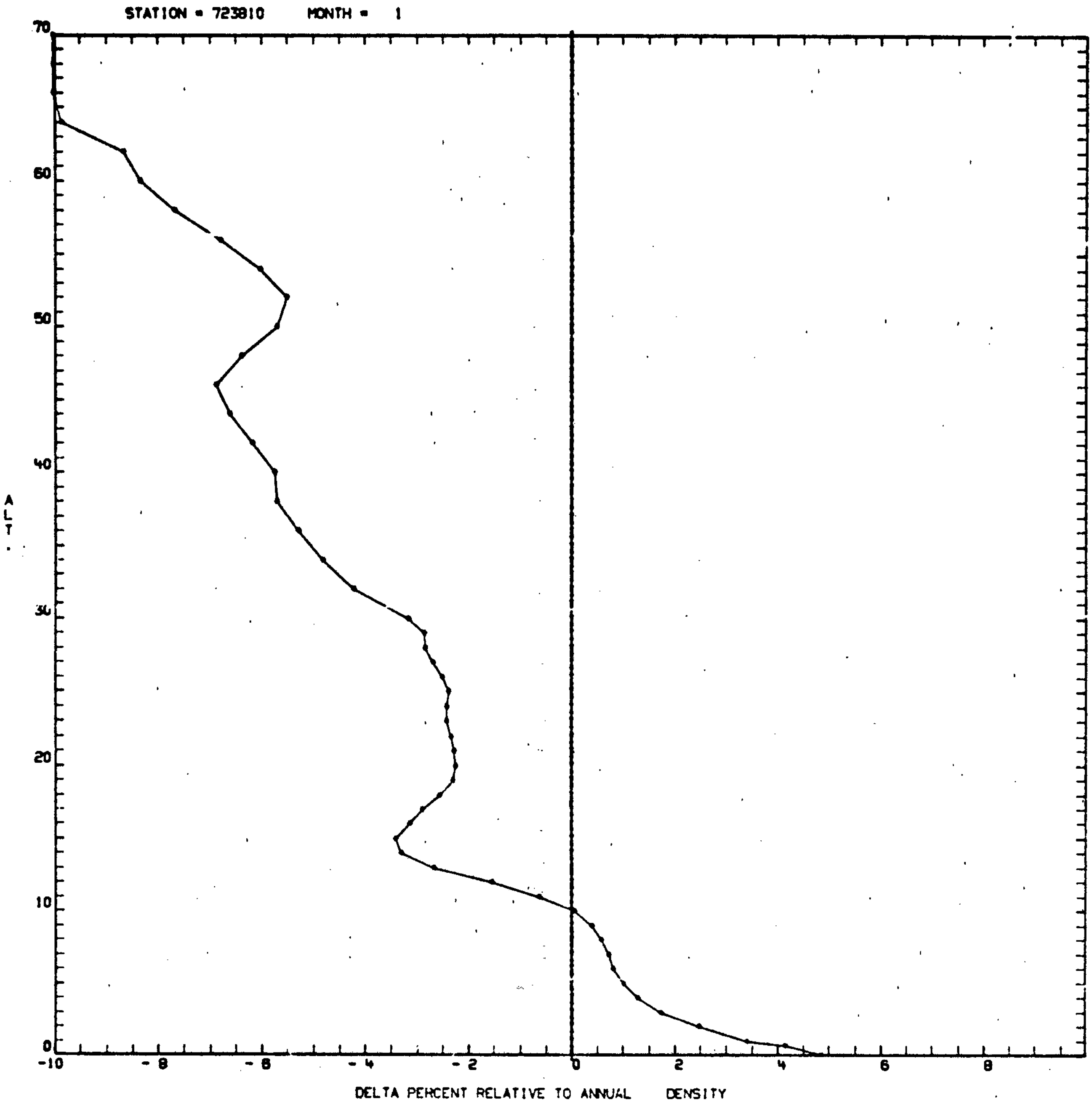

STATION = 723810 MONTH = 1
ALT.
70
60
50
40
30
20
10
0
-10
-8
-6
-4
-2
0
2
4
6
8
DELTA PERCENT RELATIVE TO ANNUAL DENSITY

Figure B-2.

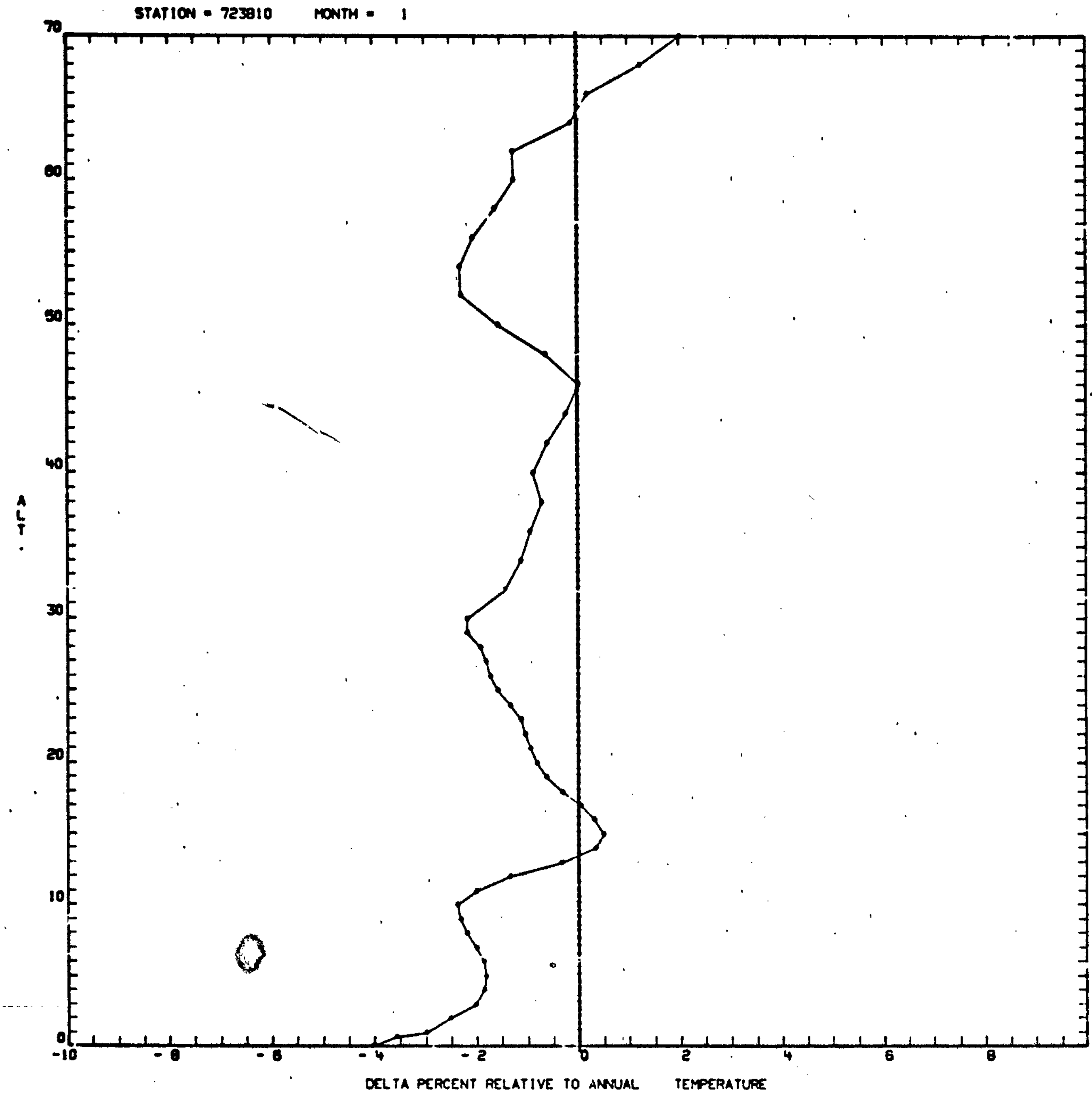

STATION = 723810 MONTH = 1
ALT.
DELTA PERCENT RELATIVE TO ANNUAL TEMPERATURE
70
60
50
40
30
20
10
0
-10
-8
-6
-4
-2
0
2
4
6
8

Figure B-3.

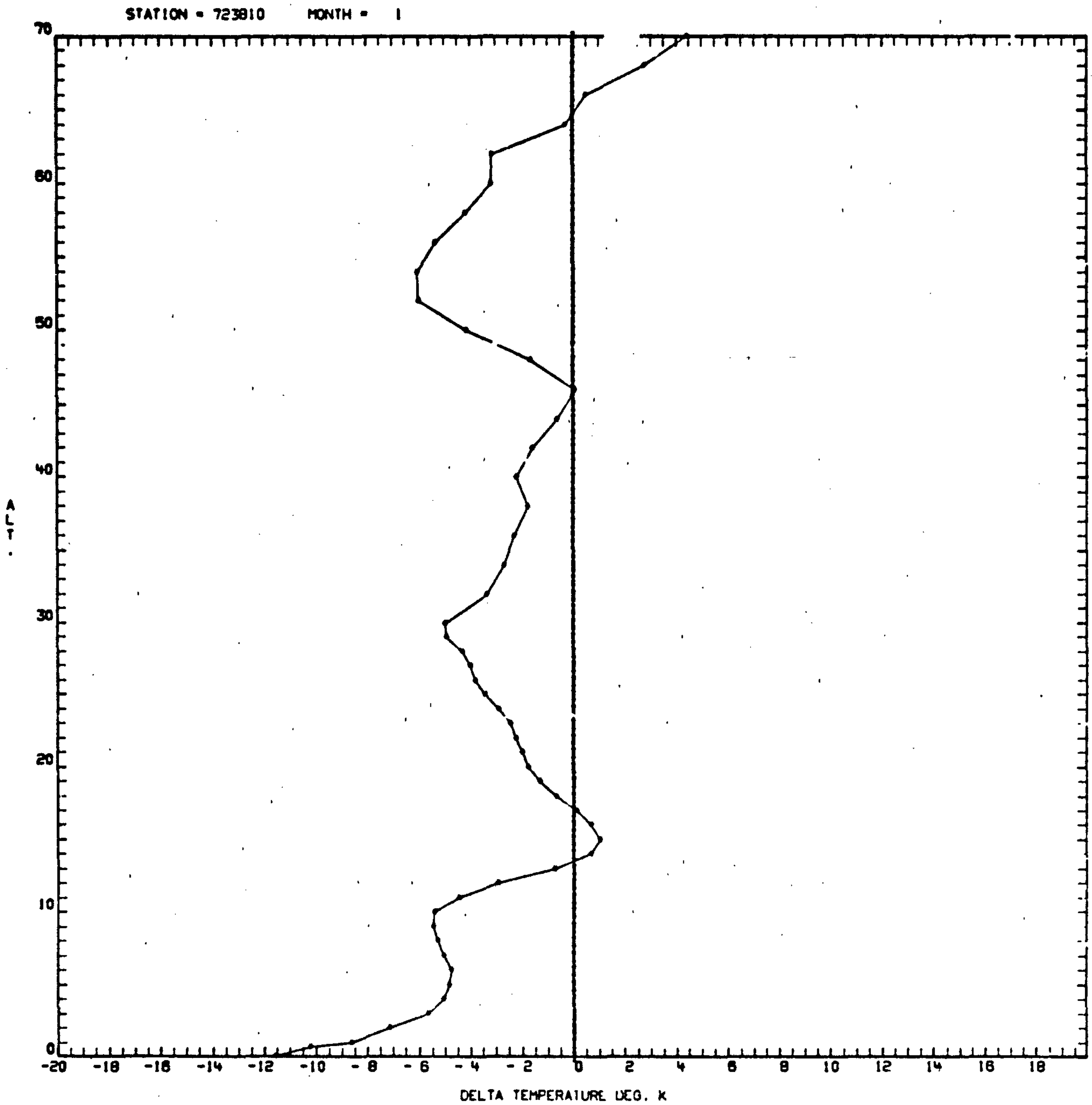

STATION = 723810 MONTH = 1
ALT.
DELTA TEMPERATURE DEG. K
0
10
20
30
40
50
60
70
-20 -18 -16 -14 -12 -10 -8 -6 -4 -2 0 2 4 6 8 10 12 14 16 18

Figure B-4.

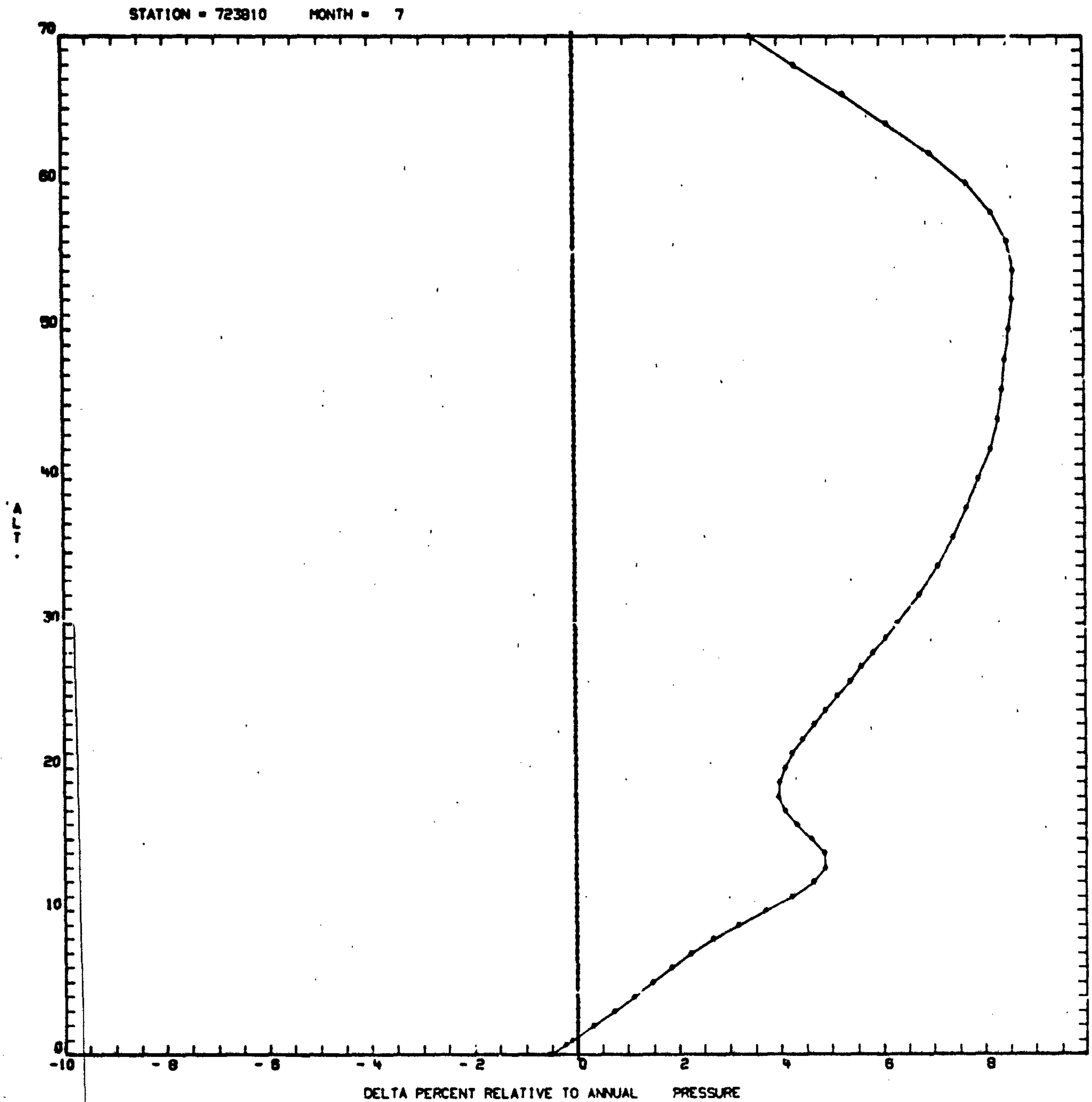

STATION = 723810 MONTH = 7
70
60
50
40
30
20
10
0
A
L
T
.
-10
-8
-6
-4
-2
0
2
4
6
8
DELTA PERCENT RELATIVE TO ANNUAL PRESSURE

Figure B-5.

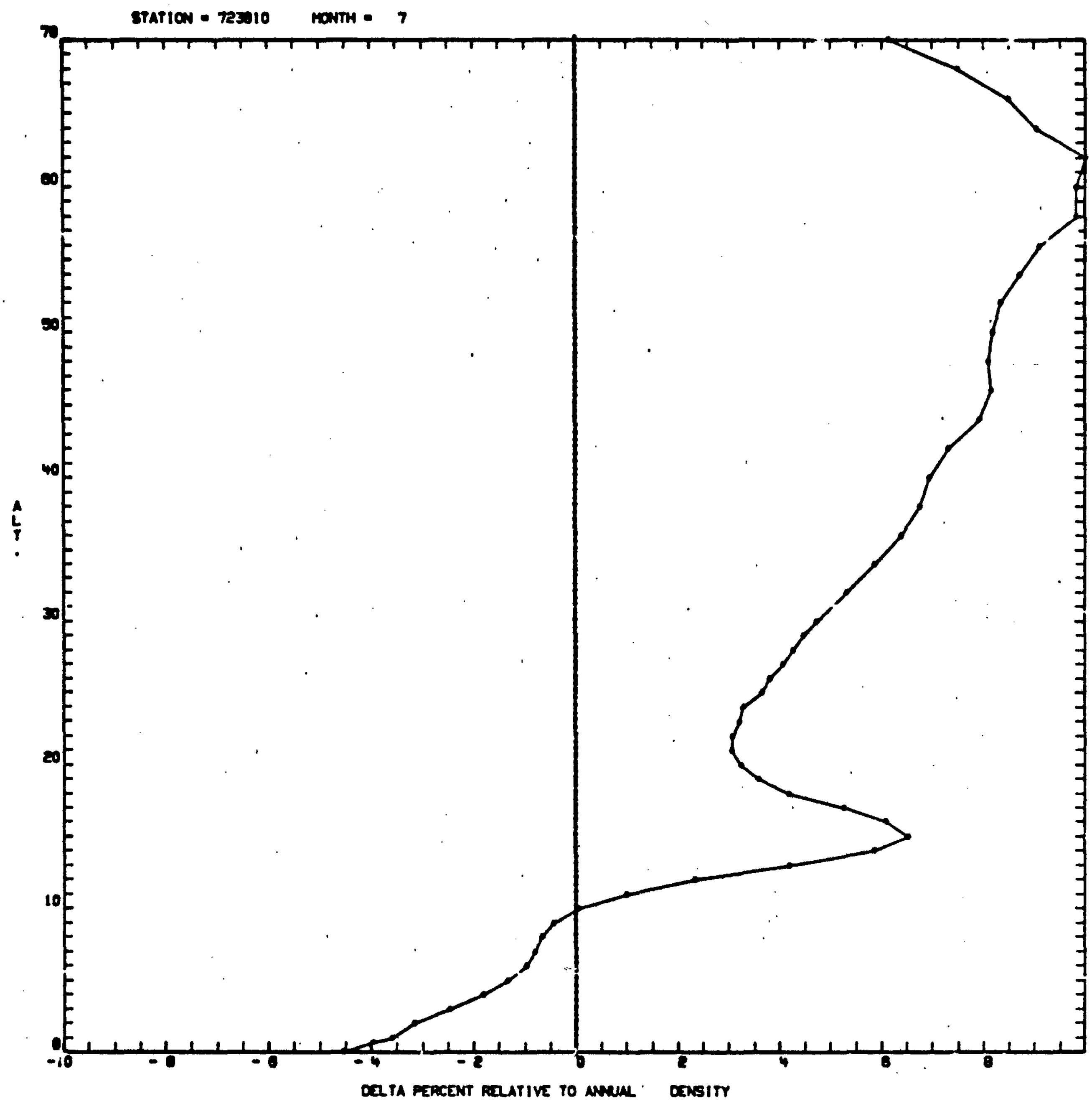
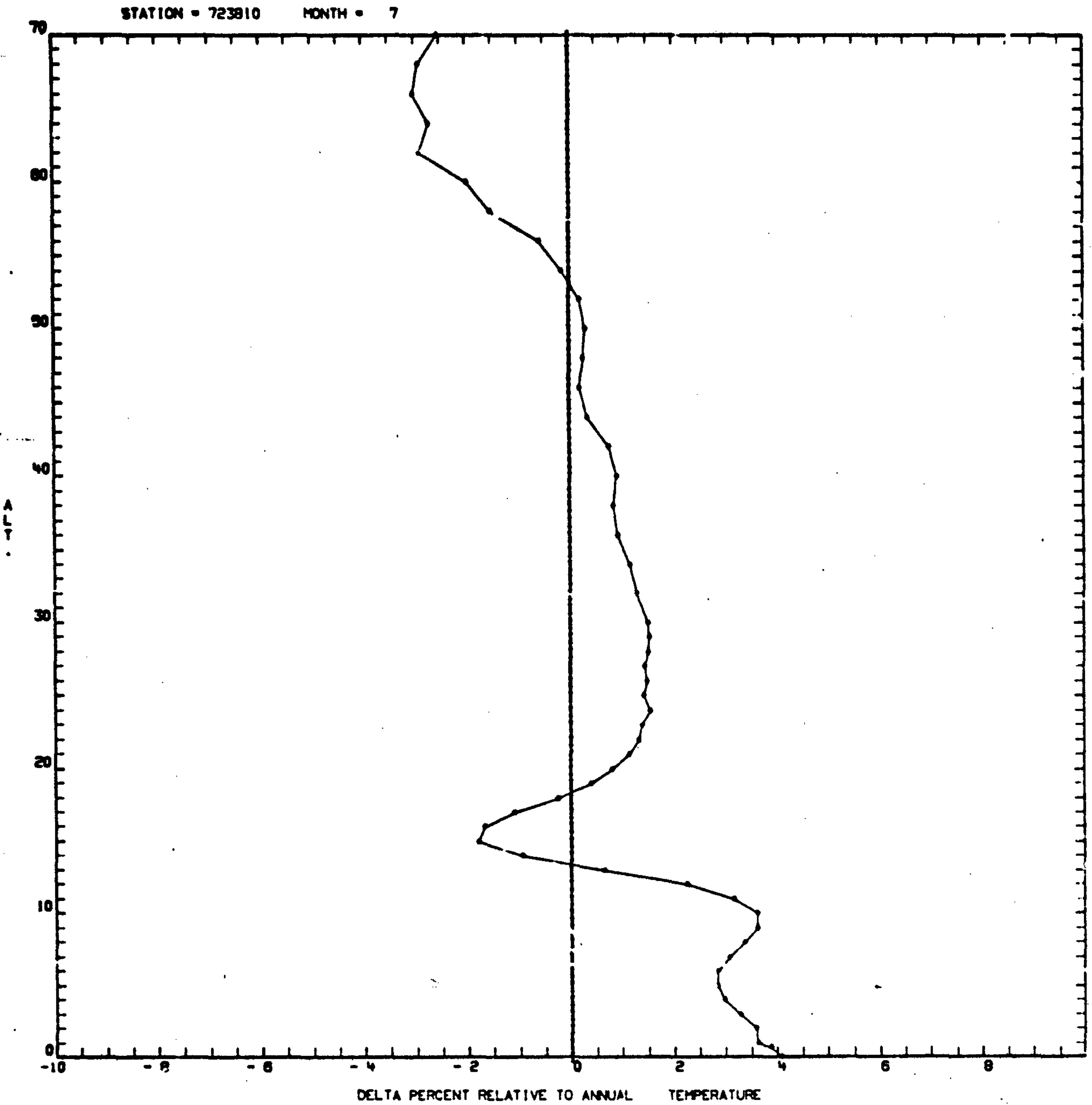

STATION = 723810 MONTH = 7
70
60
50
40
30
20
10
0
ALT.
-10
-8
-6
-4
-2
0
2
4
6
8
DELTA PERCENT RELATIVE TO ANNUAL DENSITY

Figure B-6.



STATION = 723810 MONTH = 7
70
60
50
40
30
20
10
0
ALT.
-10
-8
-6
-4
-2
0
2
4
6
8
DELTA PERCENT RELATIVE TO ANNUAL TEMPERATURE

Figure B-7.

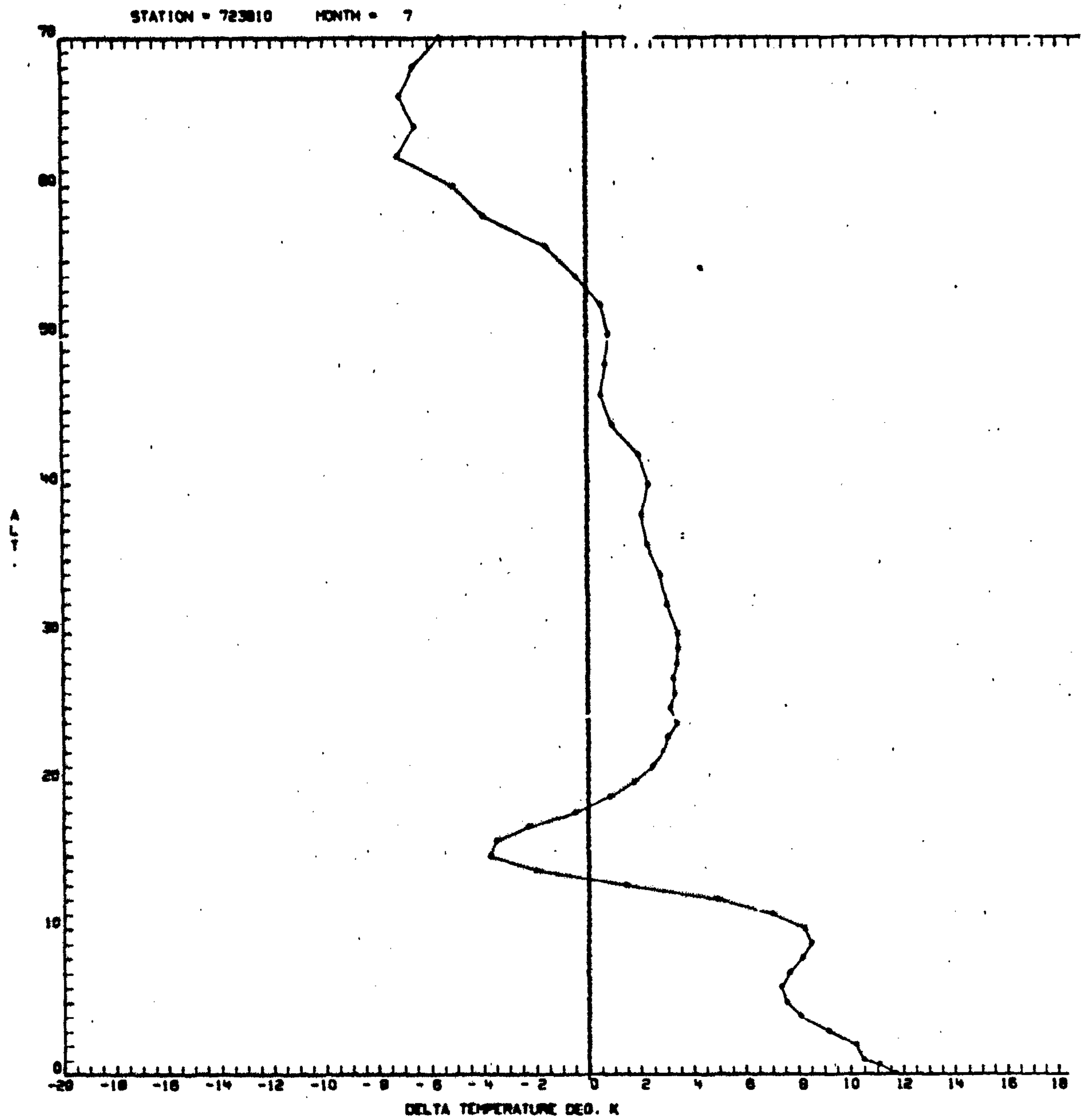


Figure B-8.

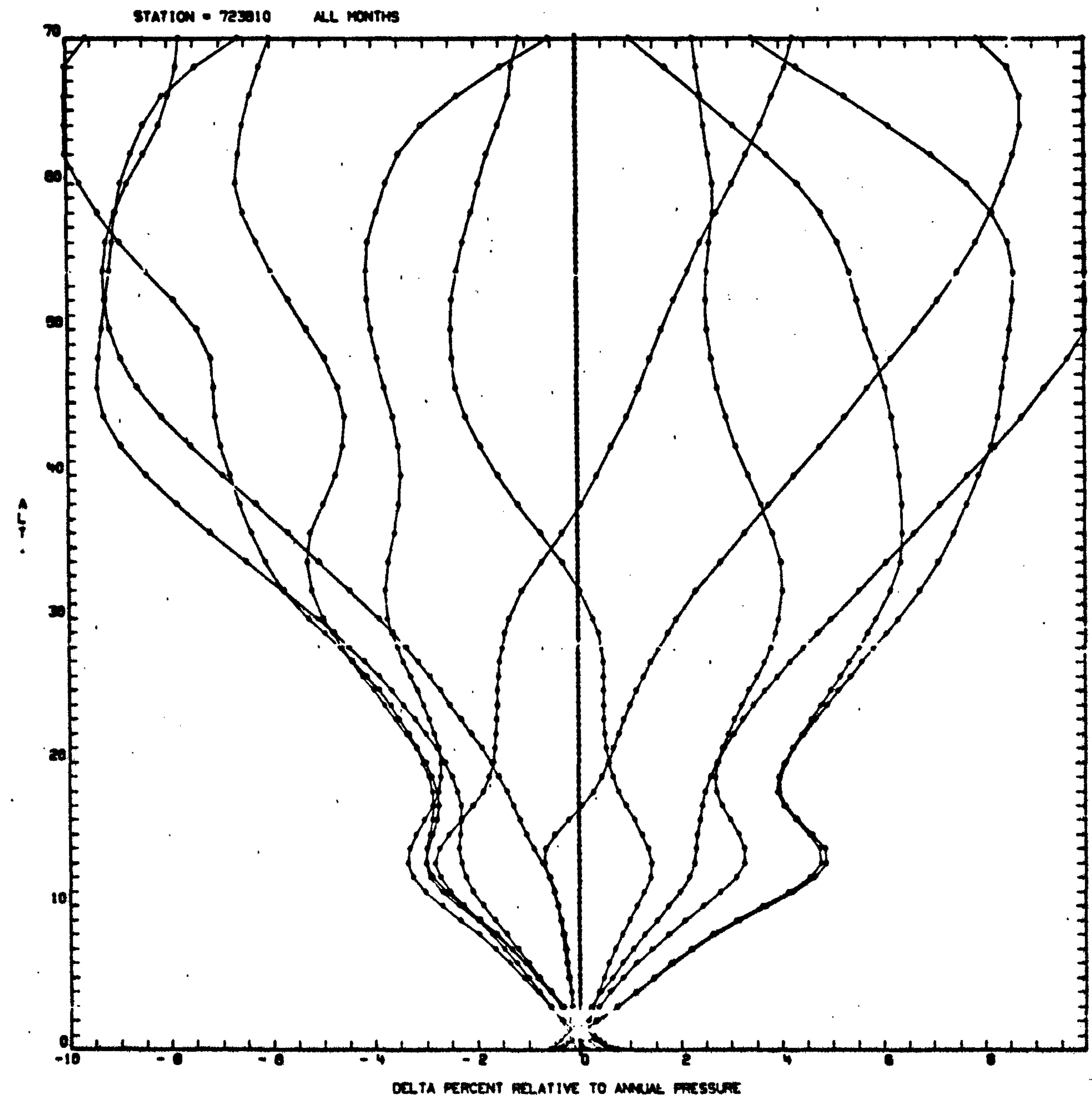
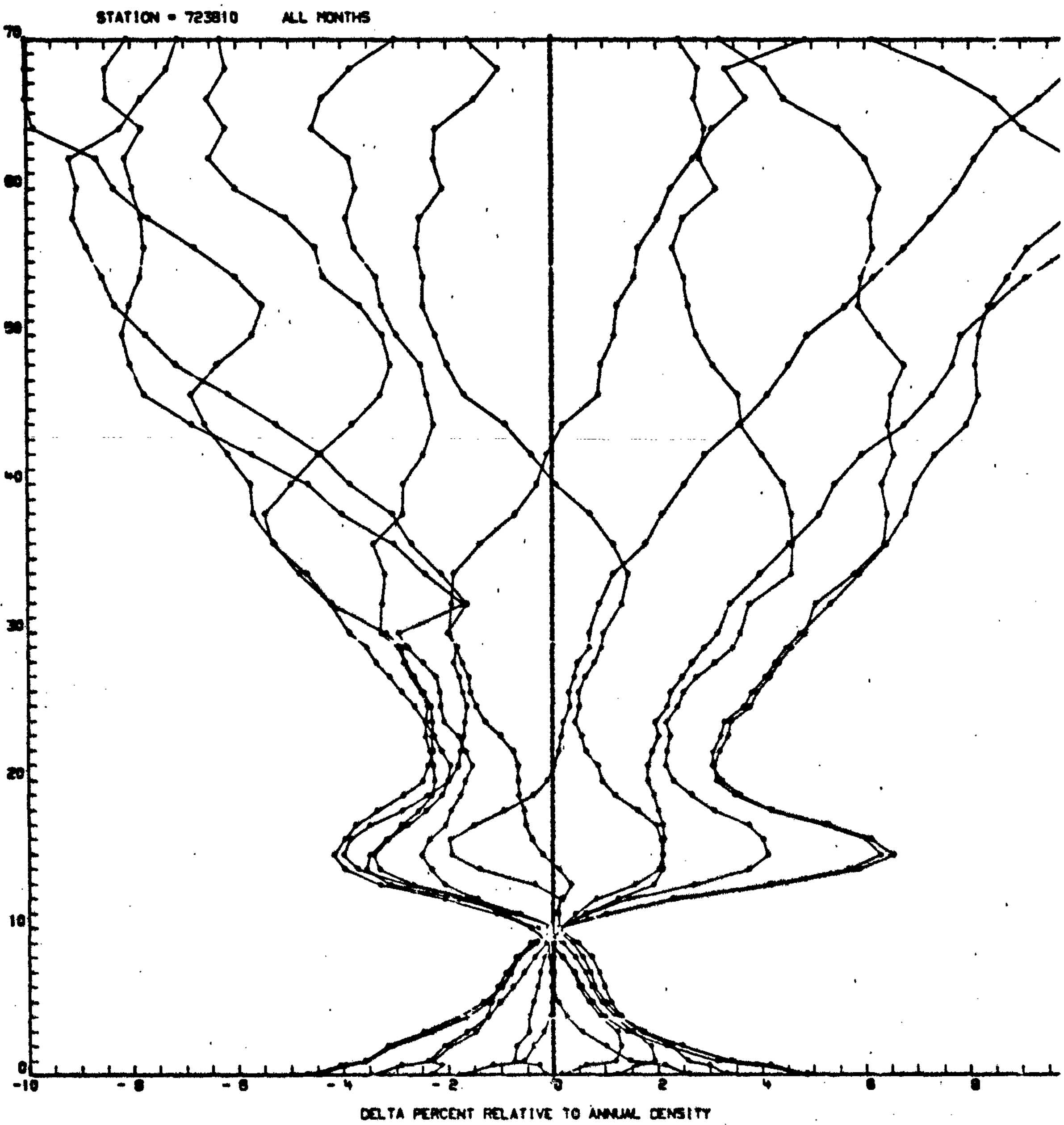
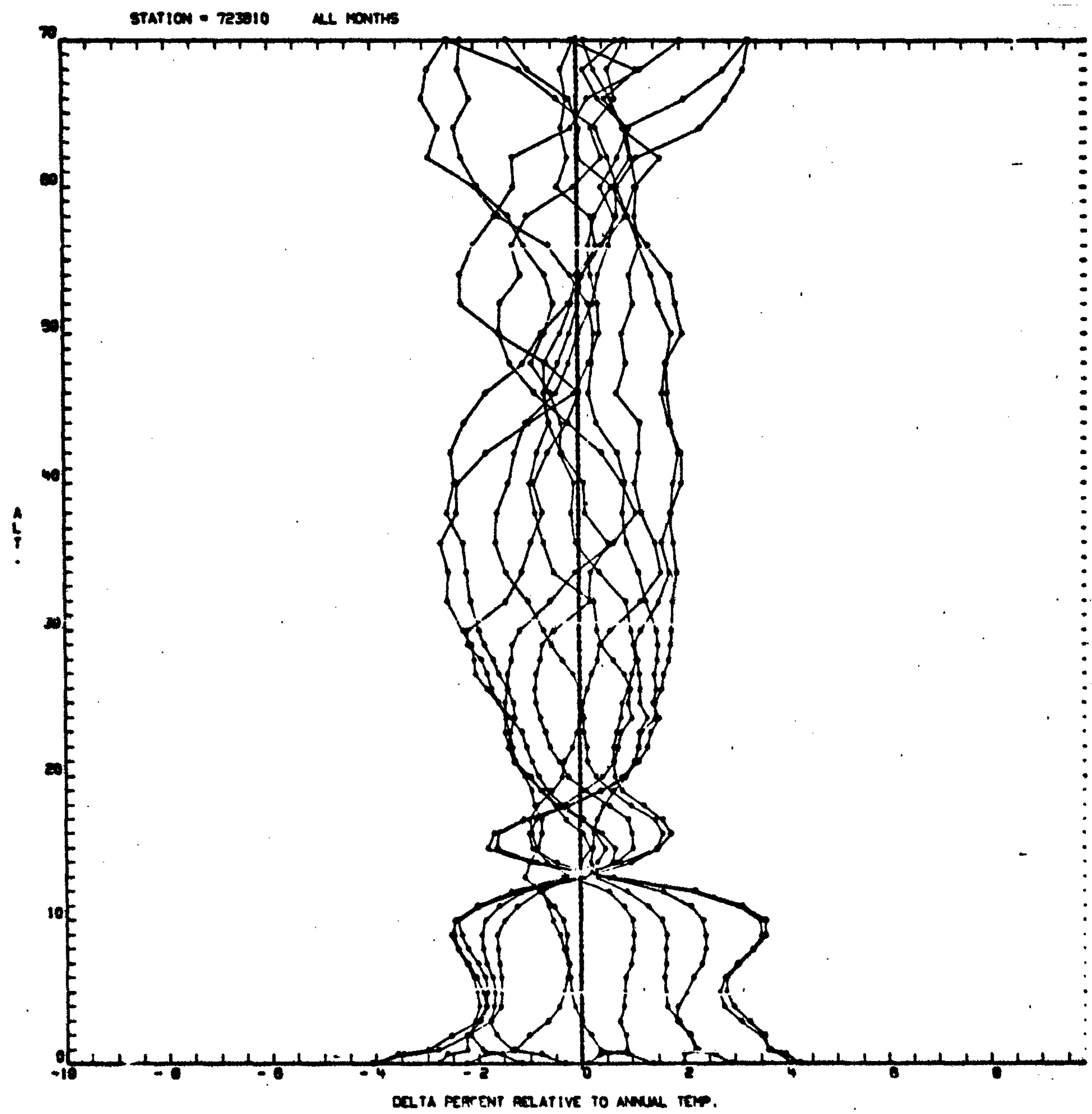

STATION = 723810 ALL MONTHS
70
60
50
40
30
20
10
0
ALT
-10
-8
-6
-4
-2
0
2
4
6
8
DELTA PERCENT RELATIVE TO ANNUAL PRESSURE

Figure B-9.



STATION = 723810 ALL MONTHS
70
60
50
40
30
20
10
0
ALT.
-10
-8
-6
-4
-2
0
2
4
6
8
DELTA PERCENT RELATIVE TO ANNUAL DENSITY

Figure B-10.



STATION = 723810 ALL MONTHS
70
60
50
40
30
20
10
0
ALT.
-10
-8
-6
-4
-2
0
2
4
6
8
DELTA PERCENT RELATIVE TO ANNUAL TEMP.

Figure B 11.

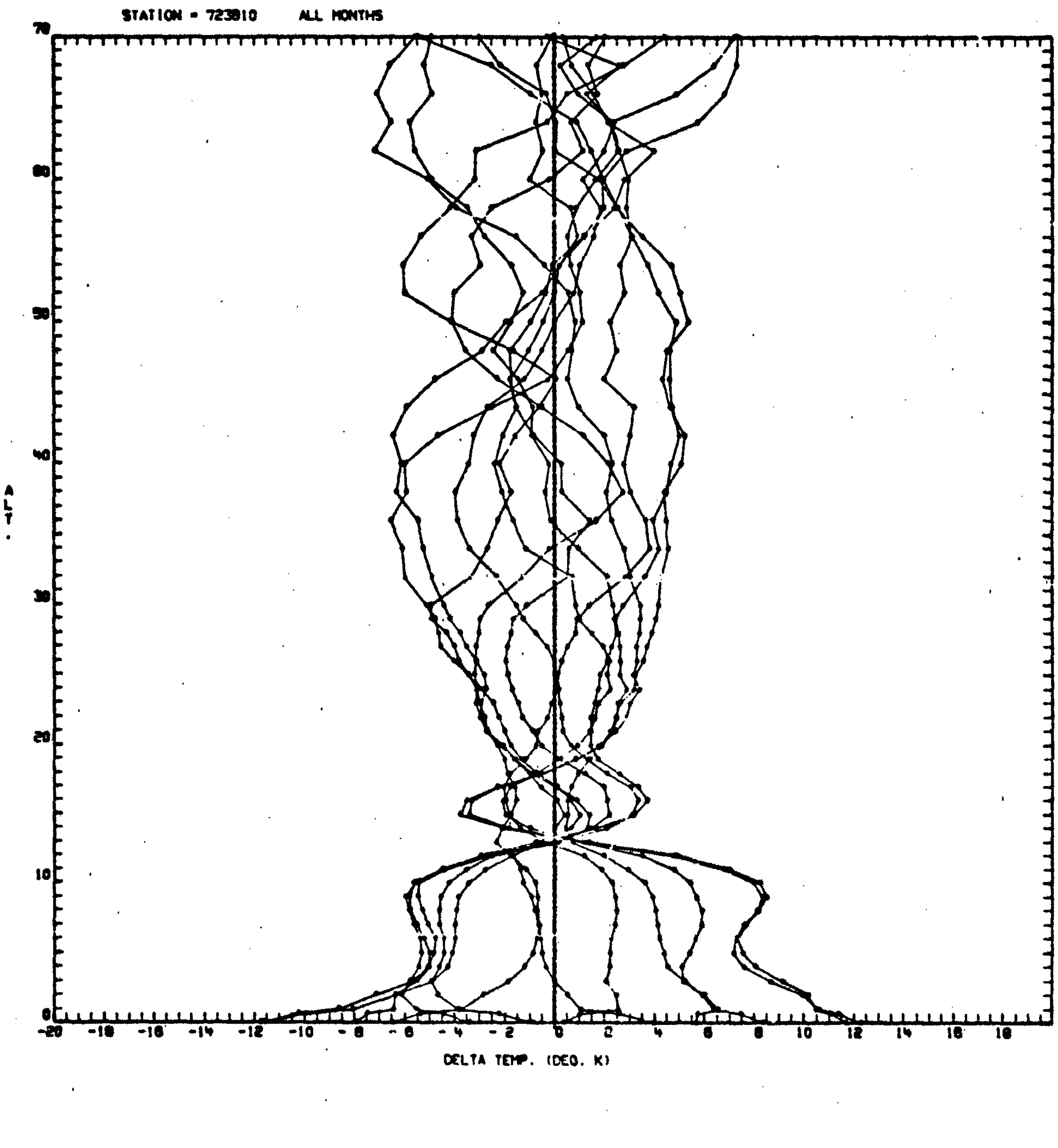


Figure B-12.

TABLE B-4.

STATION 723810 MONTH 1

LEVEL	CVP	CVD	CVT	R(P,T)	R(P,D)	R(T,D)	DCVP	DCVD	DCVT
.000	.0065	.0316	.0271	-.6278	.7443	-.9871	-.0522	-.0020	-.0110
.705	.0056	.0199	.0176	-.2794	.5282	-.9629	-.0319	-.0033	-.0079
1.000	.0058	.0167	.0159	.0391	.3082	-.9795	-.0268	-.0050	-.0066
2.000	.0065	.0162	.0190	.5678	-.2625	-.9433	-.0287	-.0093	-.0037
3.000	.0082	.0138	.0194	.7884	-.5085	-.9306	-.0250	-.0138	-.0027
4.000	.0104	.0117	.0193	.8589	-.5293	-.8891	-.0206	-.0181	-.0028
5.000	.0126	.0097	.0188	.8804	-.4049	-.7901	-.0159	-.0216	-.0036
6.000	.0148	.0087	.0182	.8826	-.1449	-.5930	-.0121	-.0244	-.0053
7.000	.0168	.0089	.0184	.8772	.0748	-.4132	-.0105	-.0264	-.0073
8.000	.0192	.0095	.0181	.8716	.3847	-.1385	-.0084	-.0278	-.0107
9.000	.0213	.0126	.0167	.8053	.6206	.0348	-.0080	-.0254	-.0172
10.000	.0229	.0197	.0153	.5294	.7526	-.1602	-.0121	-.0185	-.0273
11.000	.0234	.0299	.0179	-.0358	.8018	-.6258	-.0245	-.0113	[illegible]
12.000	.0229	.0388	.0260	-.2520	.7600	-.8205	-.0419	-.0102	-.0356
13.000	.0218	.0377	.0248	-.3057	.7791	-.8350	-.0408	-.0089	-.0347
14.000	.0206	.0332	.0192	-.3913	.8464	-.8212	-.0319	-.0066	-.0348
15.000	.0192	.0320	.0176	-.5165	.8828	-.8582	-.0304	-.0047	-.0337
16.000	.0178	.0322	.0189	-.5471	.8704	-.8883	-.0334	-.0044	-.0309
17.000	.0160	.0321	.0208	-.5173	.8326	-.9047	-.0369	-.0047	-.0273
18.000	.0145	.0285	.0200	-.3464	.7518	-.8790	-.0341	-.0060	-.0230
19.000	.0137	.0237	.0178	-.1218	.6676	-.8203	-.0279	-.0077	-.0196
20.000	.0138	.0198	.0163	.1445	.5770	-.7249	-.0223	-.0103	-.0172
21.000	.0143	.0169	.0139	.2830	.6137	-.5838	-.0165	-.0113	-.0173
22.000	.0148	.0160	.0131	.3426	.6388	-.5040	-.0144	-.0118	-.0177
23.000	.0158	.0159	.0137	.4263	.6272	-.4371	-.0138	-.0136	-.0180
24.000	.0178	.0161	.0172	.5779	.4858	-.4325	-.0155	-.0189	-.0166
25.000	.0194	.0159	.0174	.6318	.5292	-.3234	-.0139	-.0209	-.0179
26.000	.0206	.0163	.0173	.6412	.5817	-.2512	-.0130	-.0218	-.0198
27.000	.0203	.0174	.0167	.5706	.6167	-.2946	-.0139	-.0196	-.0210
28.000	.0218	.0197	.0187	.5391	.5968	-.3541	-.0166	-.0209	-.0228
29.000	.0250	.0198	.0182	.6174	.6920	-.1408	-.0131	-.0233	-.0268
30.000	.0286	.0240	.0197	.5592	.7327	-.1544	-.0151	-.0243	-.0329
32.000	.0229	.0329	.0246	.0965	.8420	-.7012	-.0337	-.0155	-.0302
34.000	.0242	[illegible]	[illegible]	.1378	[illegible]	-.7292	[illegible]	-.0190	-.0303
36.000	.0262	.0395	.0354	.2047	.4789	-.7612	-.0488	-.0221	-.0303
38.000	.0294	.0385	.0407	.4333	.3049	-.7262	-.0498	-.0315	-.0272
40.000	.0348	.0348	.0403	.5781	.3316	-.5780	-.0403	-.0403	-.0294
42.000	.0411	.0379	.0402	.5656	.4837	-.4482	-.0370	-.0434	-.0388
44.000	.0459	.0420	.0362	.4970	.6638	-.3190	-.0324	-.0401	-.0517
46.000	.0500	.0457	.0335	.4584	.7583	-.2319	-.0292	-.0378	-.0622
48.000	.0538	.0447	.0279	.5526	.8543	.0387	-.0190	-.0368	-.0704
50.000	.0573	.0491	.0244	.5244	.9065	.1158	-.0162	-.0325	-.0820
52.000	.0607	.0555	.0241	.4042	.9176	.0074	-.0190	-.0293	-.0921
54.000	.0619	.0586	.0217	.3239	.9362	-.0293	-.0184	-.0251	-.0987
56.000	.0615	.0598	.0254	.2723	.9128	-.1445	-.0237	-.0271	-.0959
58.000	.0617	.0586	.0256	.3269	.9108	-.0924	-.0224	-.0287	-.0947
60.000	.0672	.0595	.0369	.4716	.8369	-.0881	-.0292	-.0446	-.0897
62.000	.0596	.0515	.0427	.5349	.7138	-.2102	-.0346	-.0508	-.0684
64.000	.0642	.0537	.0458	.5683	.7112	-.1742	-.0353	-.0564	-.0720
66.000	.0687	.0484	.0590	.7220	.5393	-.1933	-.0387	-.0792	-.0582
68.000	.0881	.0619	.0838	.7114	.6898	-.0181	-.0376	-.0900	-.0863
70.000	.0666	.0617	.0415	.4258	.7935	-.2187	-.0366	-.0484	-.0869

TABLE B-5.

STATION 723810 MONTH 7

LEVEL	CVP	CVD	CVT	R(P,T)	R(P,D)	R(T,D)	DCVP	DCVD	DC'T
.000	.0024	.0221	.0211	-.3458	.4389	-.9949	-.0408	-.0014	-.0033
.705	.0021	.0144	.0146	.1495	-.0024	-.9891	-.0269	-.0023	-.0020
1.000	.0025	.0104	.0103	.0577	.1838	-.9707	-.0182	-.0023	-.0027
2.000	.0028	.0089	.0098	.3905	-.1088	-.9576	-.0157	-.0035	-.0021
3.000	.0033	.0072	.0082	.4817	-.0927	-.9172	-.0122	-.0043	-.0023
4.000	.0038	.0062	.0071	.4782	.0714	-.8419	-.0095	-.0047	-.0030
5.000	.0043	.0064	.0073	.5051	.0960	-.8105	-.0094	-.0053	-.0033
6.000	.0048	.0060	.0078	.6447	-.0373	-.7879	-.0090	-.0066	-.0030
7.000	.0054	.0055	.0081	.7349	-.0979	-.7469	-.0082	-.0080	-.0028
8.000	.0063	.0061	.0093	.7626	-.1345	-.7436	-.0091	-.0095	-.0030
9.000	.0073	.0064	.0105	.7985	-.1605	-.7224	-.0095	-.0114	-.0032
10.000	.0086	.0069	.0106	.7591	.0851	-.5841	-.0089	-.0123	-.0049
11.000	.0098	.0075	.0102	.7154	.3336	-.4200	-.0079	-.0124	-.0072
12.000	.0105	.0099	.0098	.5202	.5393	-.4386	-.0093	-.0103	-.0106
13.000	.0112	.0136	.0099	.1701	.6947	-.5906	-.0124	-.0075	-.0148
14.000	.0111	.0170	.0114	-.1419	.7464	-.7647	-.0174	-.0055	-.0167
15.000	.0106	.0192	.0130	-.3166	.7668	-.8516	-.0216	-.0044	-.0168
16.000	.0100	.0186	.0131	-.2871	.7402	-.8568	-.0216	-.0045	-.0156
17.000	.0093	.0163	.0122	-.1332	.6695	-.8254	-.0192	-.0052	-.0134
18.000	.0094	.0140	.0115	.1062	.5794	-.7489	-.0162	-.0068	-.0119
19.000	.0093	.0119	.0101	.2441	.5726	-.6553	-.0127	-.0074	-.0111
20.000	.0097	.0106	.0093	.3782	.5822	-.5325	-.0102	-.0084	-.0110
21.000	.0103	.0099	.0080	.4422	.6838	-.3524	-.0078	-.0084	-.0121
22.000	.0111	.0092	.0066	.5620	.8042	-.0397	-.0047	-.0085	-.0137
23.000	.0116	.0096	.0066	.5586	.8244	-.0089	-.0046	-.0086	-.0147
24.000	.0122	.0098	.0070	.6018	.8195	.0355	-.0046	-.0095	-.0150
25.000	.0129	.0098	.0078	.6539	.7972	.0646	-.0047	-.0109	-.0148
26.000	.0138	.0102	.0083	.6825	.8037	.1137	-.0046	-.0119	-.0157
27.000	.0140	.0102	.0094	.6824	.7413	.0153	-.0056	-.0132	-.0148
28.000	.0153	.0109	.0094	.7095	.7919	.1315	-.0050	-.0138	-.0167
29.000	.0164	.0118	.0105	.6979	.7665	.0749	-.0059	-.0152	-.0176
30.000	.0179	.0123	.0108	.7419	.8157	.2173	-.0050	-.0162	-.0196
32.000	.0162	.0163	.0145	.4390	.6033	-.4517	-.0146	-.0144	-.0180
34.000	.0176	.0154	.0138	.5453	.6531	-.2710	-.0115	.0181	-.0192
36.000	.0190	.0165	.0140	.5357	.6993	-.2290	-.0115	-.0165	-.0216
38.000	.0209	.0192	.0157	.4774	.6975	-.2967	-.0140	-.0174	-.0244
40.000	.0227	.0191	.0154	.5530	.7392	-.1523	-.0119	-.0190	-.0263
42.000	.0245	.0212	.0135	.5057	.8340	-.0543	-.0102	-.0169	-.0321
44.000	.0262	.0230	.0169	.4985	.7720	-.1661	-.0137	-.0200	-.0323
46.000	.0282	.0242	.0204	.5448	.7079	-.2066	-.0164	-.0244	-.0321
48.000	.0309	.0249	.0185	.5926	.8004	-.0086	-.0125	-.0245	-.0372
50.000	.0323	.0263	.0158	.5887	.8753	.1244	-.0098	-.0218	-.0429
52.000	.0346	.0281	.0160	.6002	.8898	.1691	-.0095	-.0225	-.0467
54.000	.0374	.0271	.0205	.7057	.8447	.2169	-.0102	-.0307	-.0440
56.000	.0421	.0282	.0228	.7828	.8641	.3631	-.0088	-.0368	-.0475
58.000	.0476	.0337	.0287	.7140	.8021	.1545	-.0149	-.0426	-.0525
60.000	.0494	.0372	.0389	.6688	.8284	-.1579	-.0287	-.0511	-.0477
62.000	.0562	.0449	.0414	.6131	.6850	-.1555	-.0302	-.0527	-.0597
64.000	.0568	.0470	.0432	.5878	.6682	-.2091	-.0334	-.0530	-.0606
66.000	.0575	.0372	.0415	.3679	.7382	-.3557	-.0412	-.0418	-.0733
68.000	.0573	.0614	.0501	.3527	.5461	-.4863	-.0541	-.0460	-.0687
70.000	.0635	.0559	.0474	.5248	[illegible]	-.2525	-.0398	-.0551	-.0720

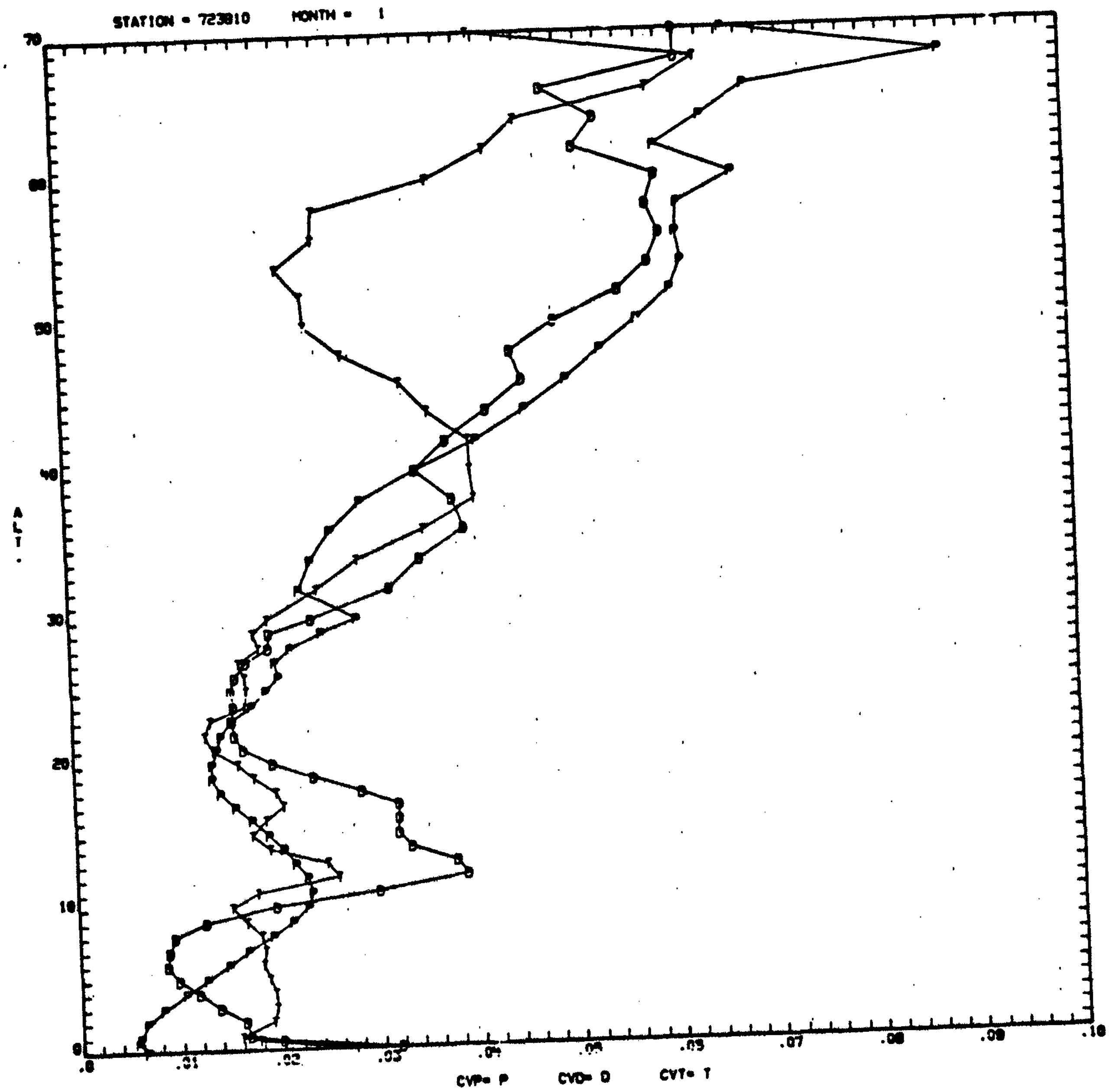


Figure B-13.

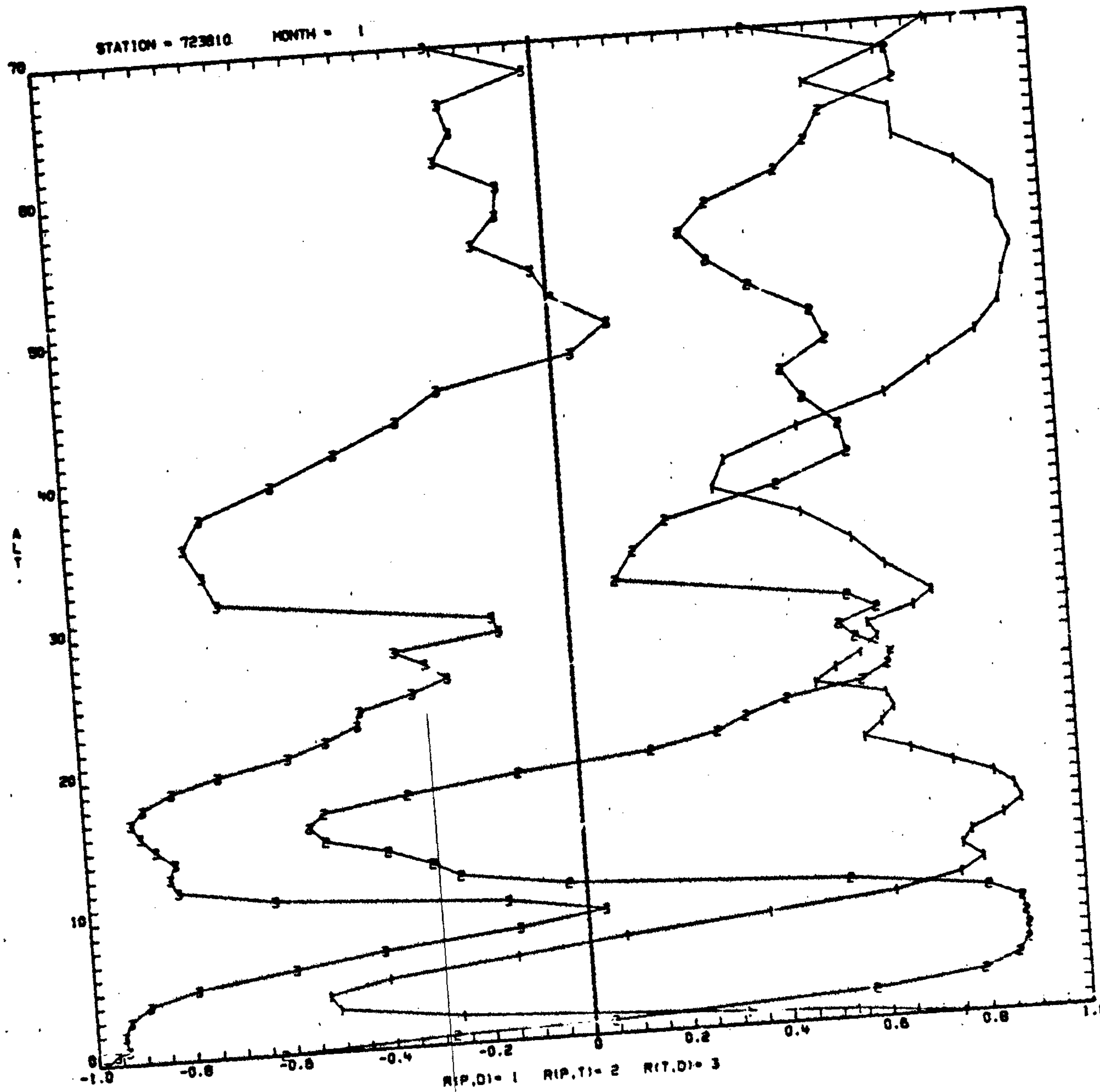

STATION = 723810 MONTH = 1
70
60
50
40
30
20
10
0
ALT.
-1.0
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
0.8
1.0
R(P,D)= 1 R(P,T)= 2 R(T,D)= 3

Figure B-14.

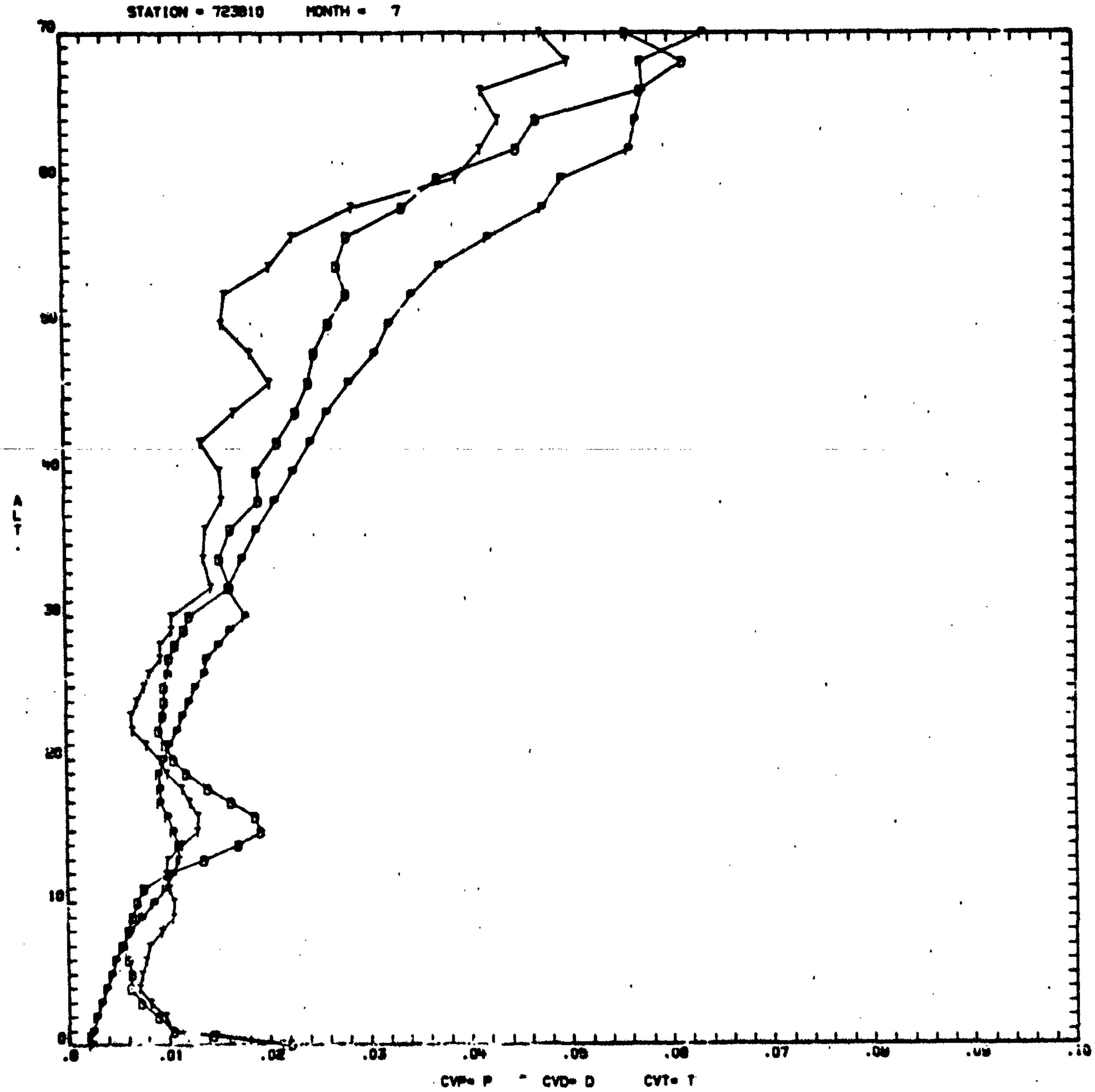


Figure B-15.

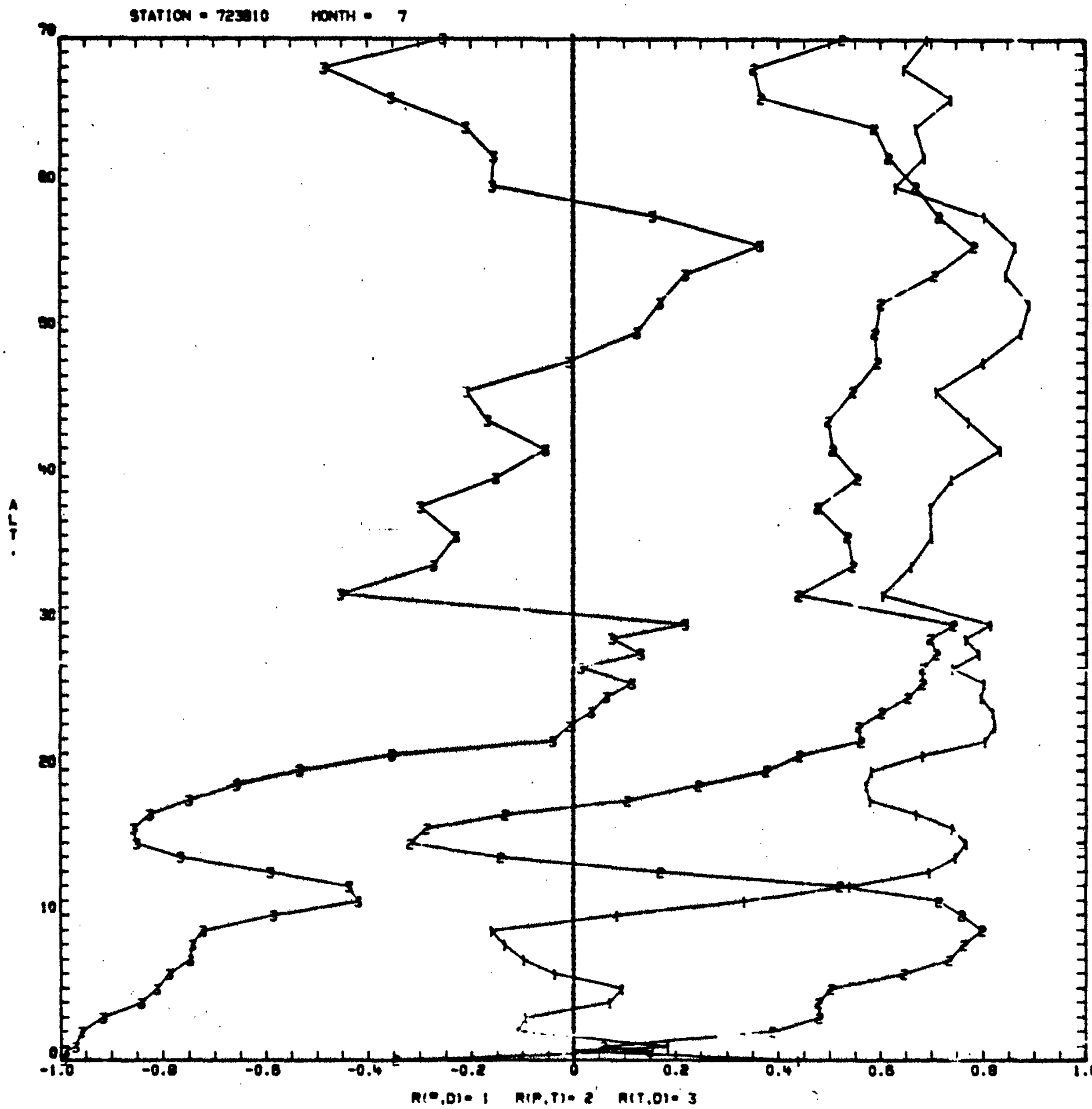


Figure B-16.

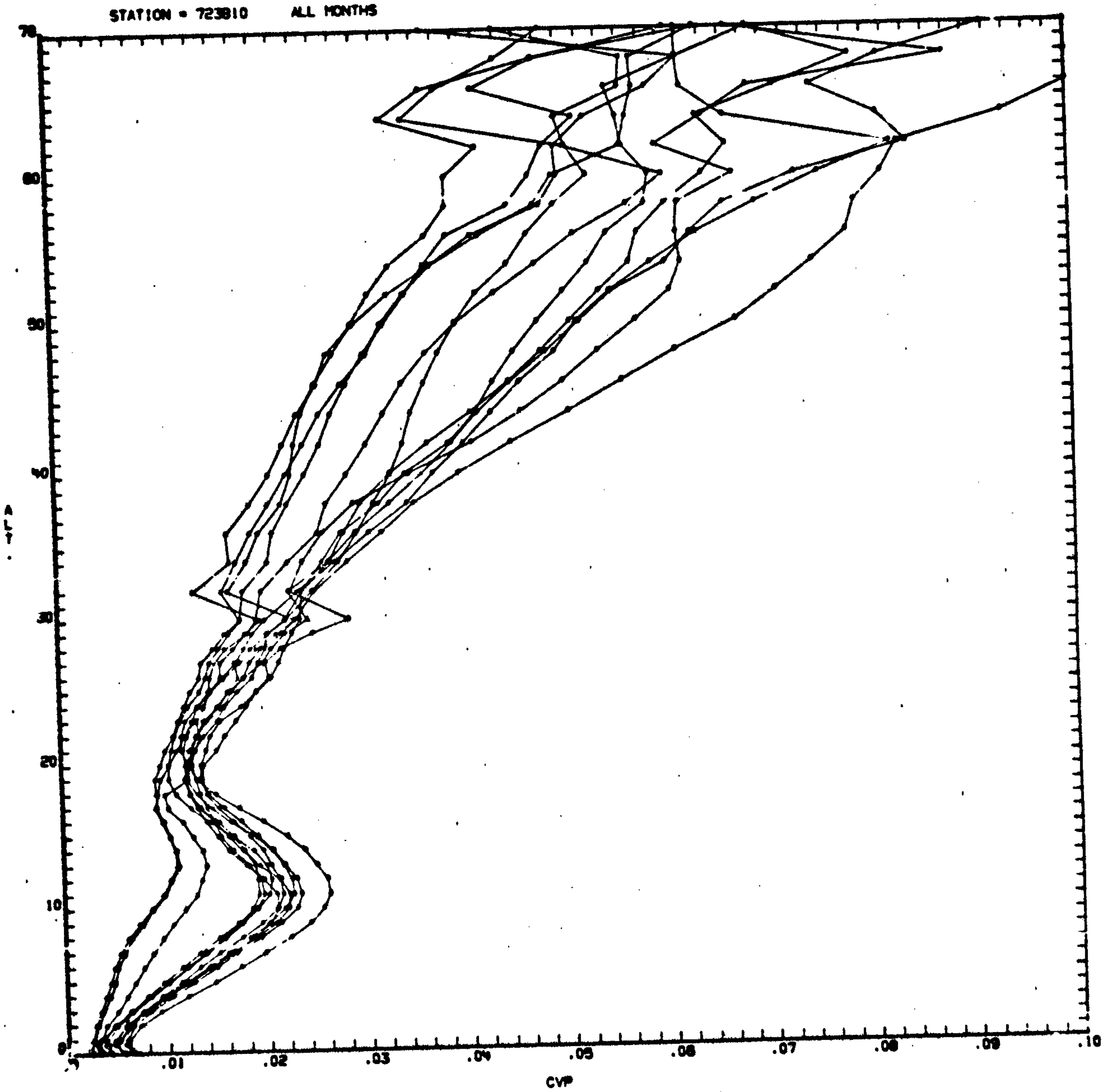

STATION = 723810 ALL MONTHS
70
60
50
40
30
20
10
0
A
L
T
.01
.02
.03
.04
.05
.06
.07
.08
.09
.10
CVP

Figure B-17.

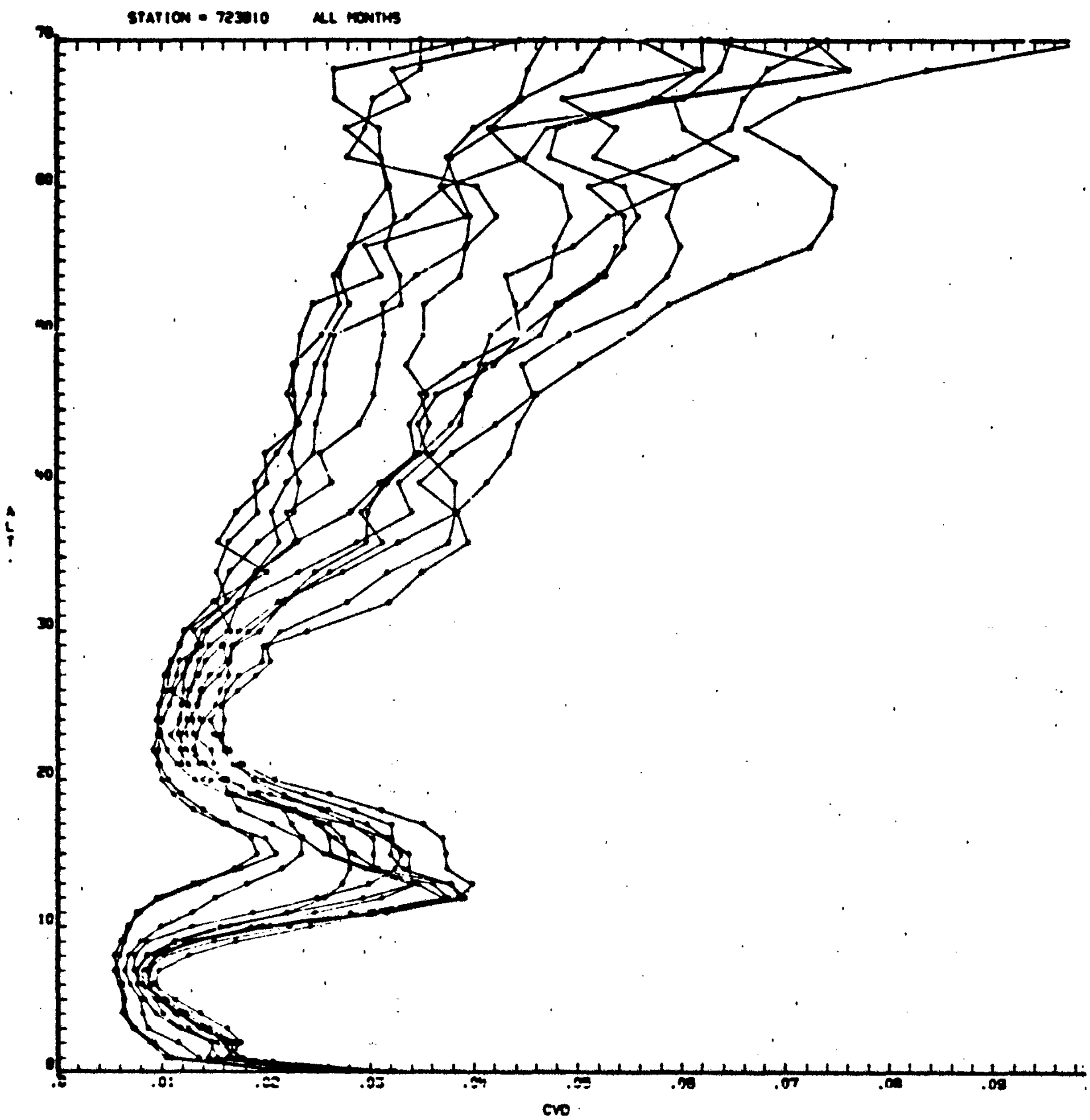


Figure B-18.

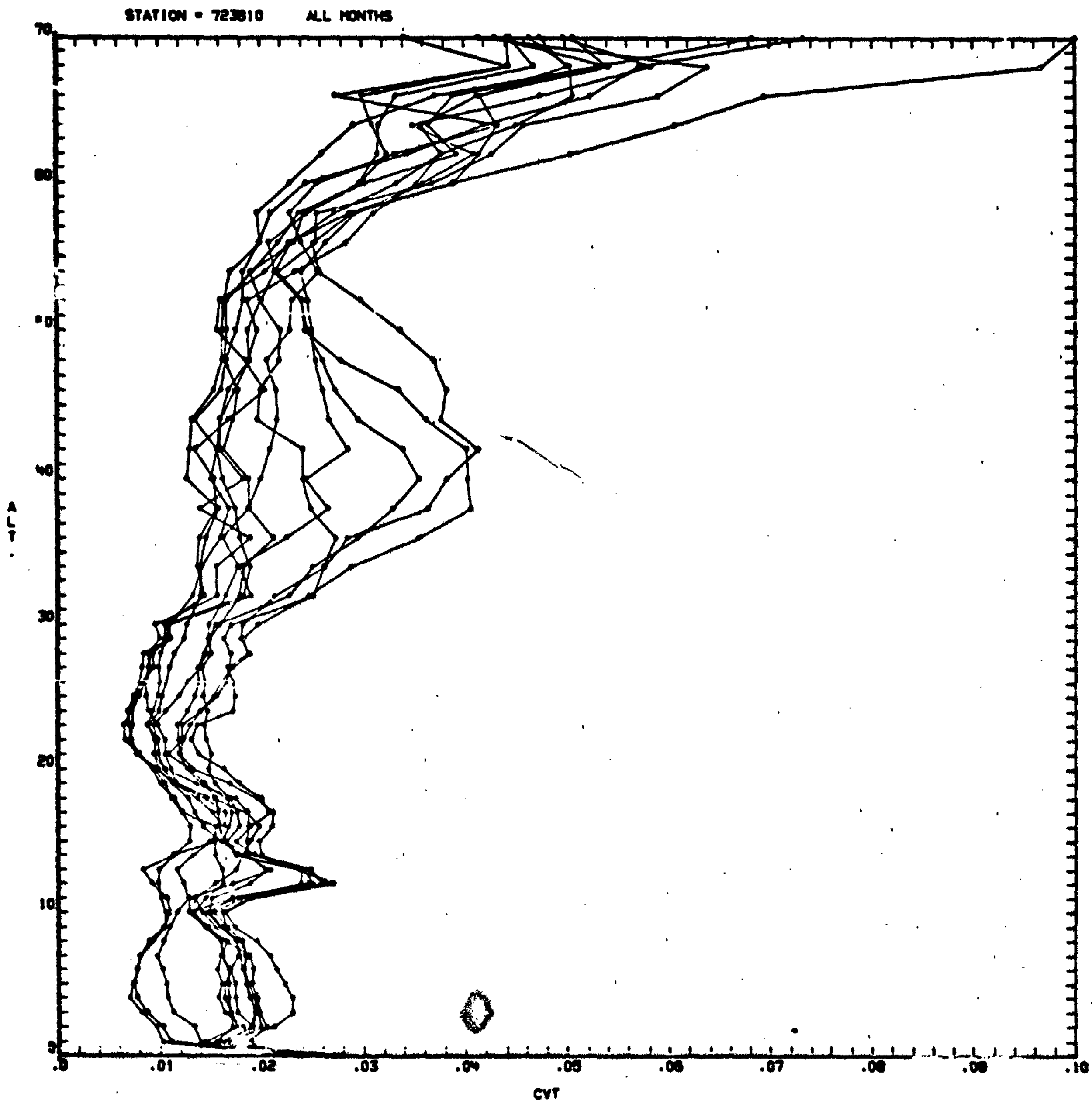

STATION = 723810 ALL MONTHS
70
60
50
40
30
20
10
0
ALT
.0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.10
CVT

Figure B-19.

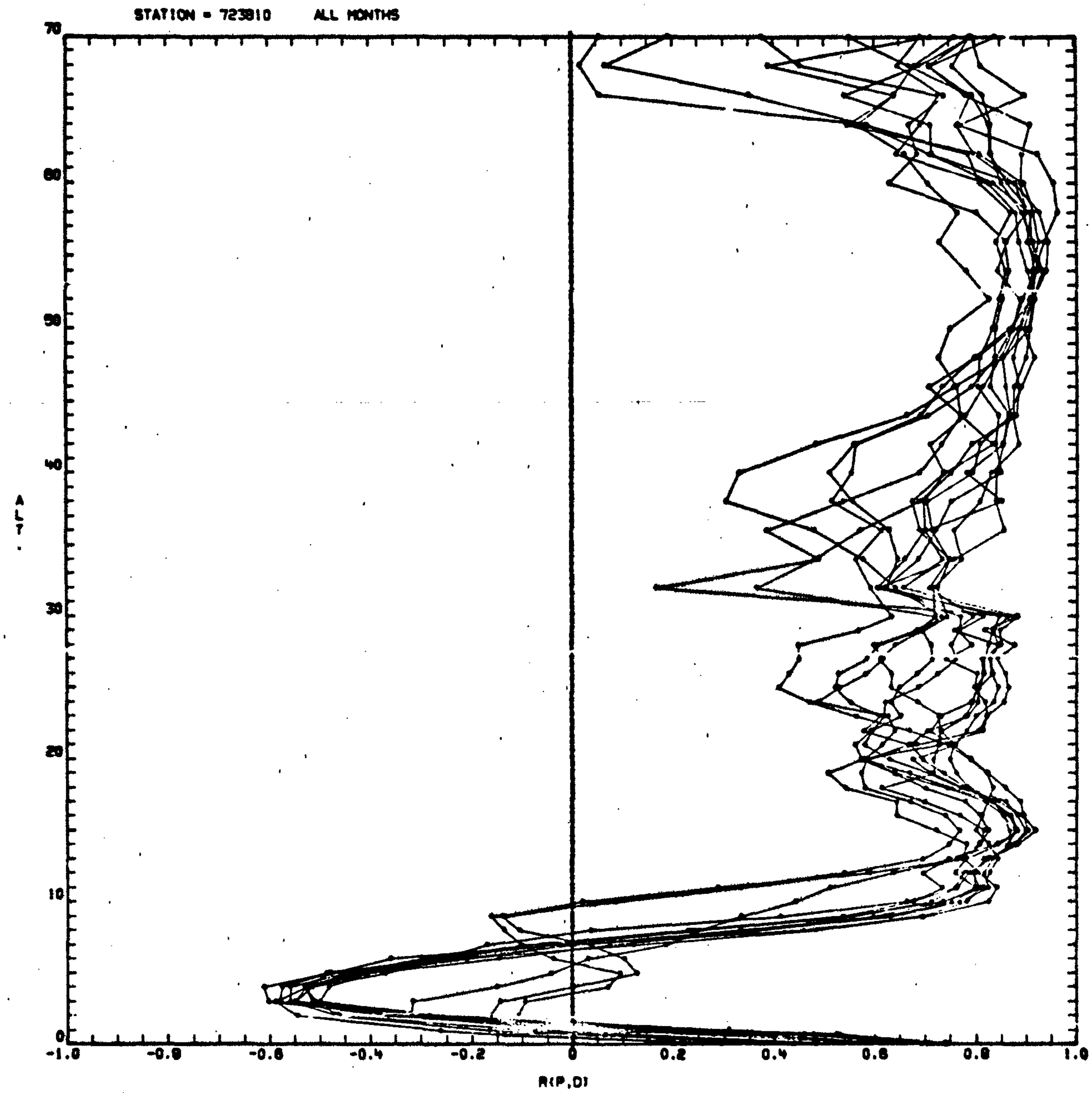


Figure B-20.

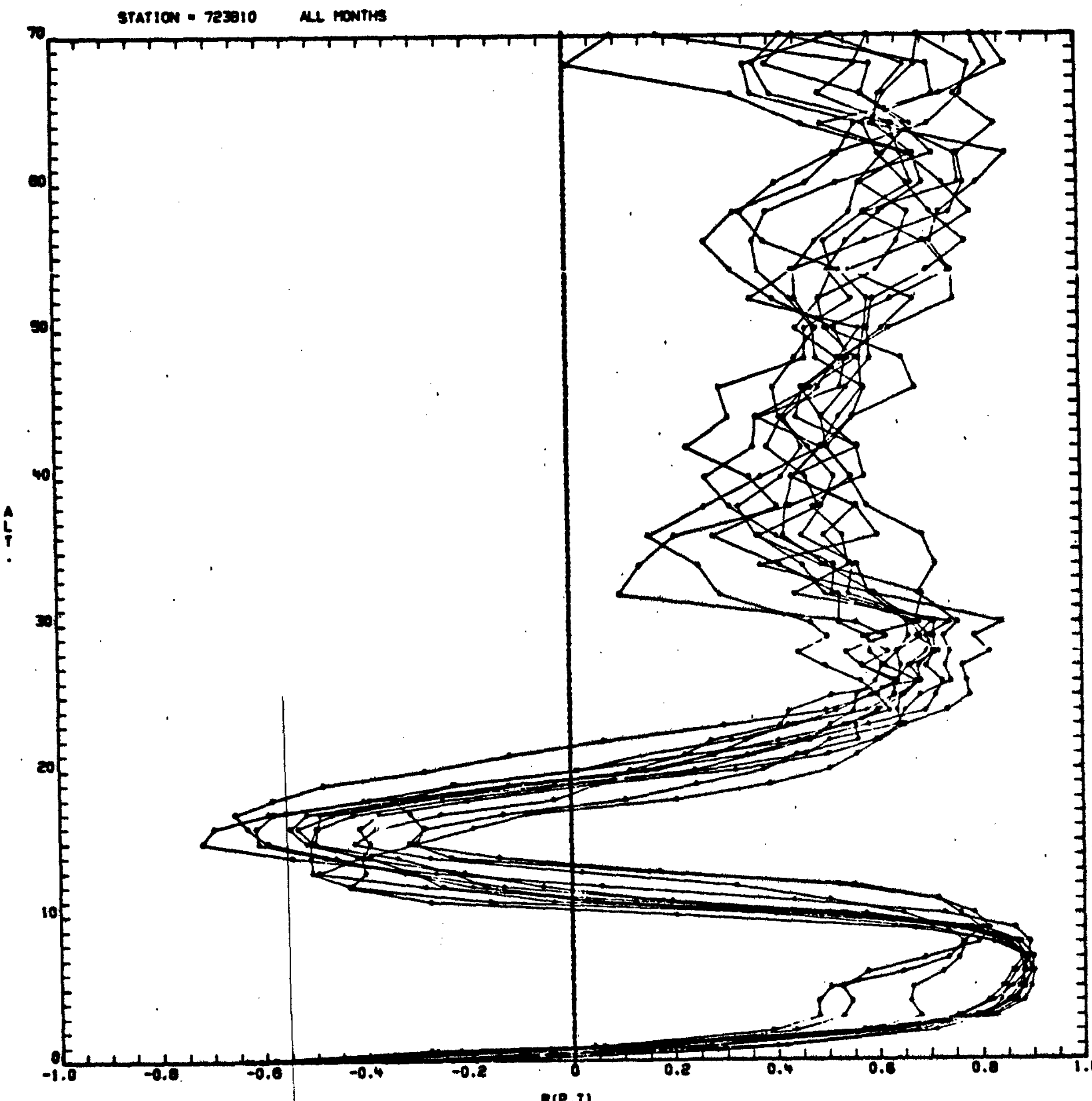

STATION = 723810 ALL MONTHS
70
60
50
40
30
20
10
0
A
L
T
-1.0
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
0.8
1.0
R(P,T)

Figure B-21.

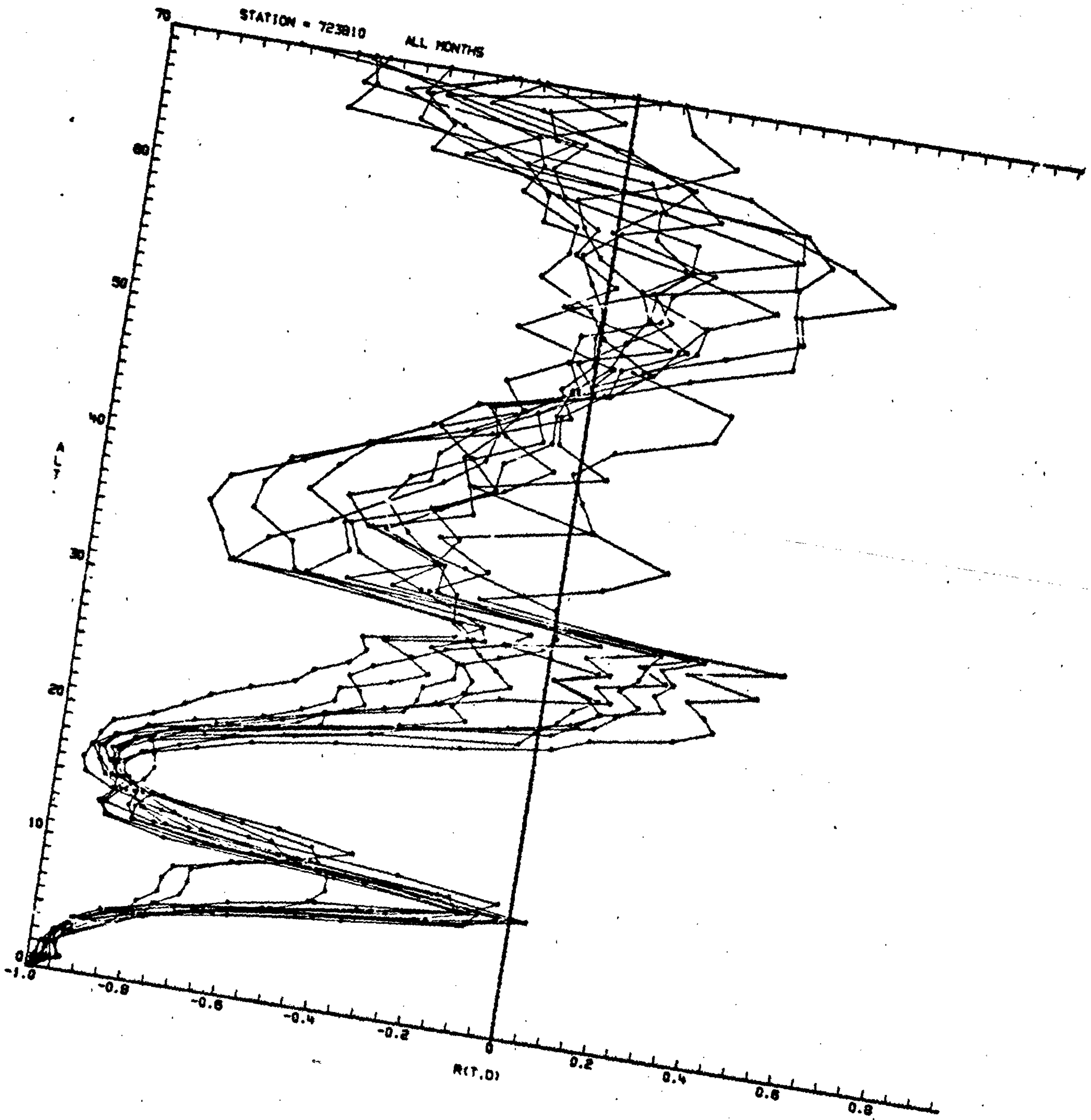


Figure B-22.